

**ADMINISTRATIVE DRAFT  
ENVIRONMENTAL IMPACT REPORT**

**ALVISO MASTER PLAN:  
*A SPECIFIC PLAN FOR THE ALVISO  
COMMUNITY***

**VOLUME I  
EIR TEXT**

**Prepared by the  
City of San Jose**

**NOVEMBER 1997**

## PREFACE

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This document has been prepared by the City of San Jose as the Lead Agency in conformance with the California Environmental Quality Act (CEQA). The purpose of this EIR is to inform decision makers and the general public of the environmental effects of a proposed project.

This EIR provides program-level environmental review appropriate for the Alviso Master Plan: A Specific Plan for the Alviso Community, in accordance with CEQA Guidelines Sections 15166 and 15168.

In accordance with CEQA, the EIR provides objective information regarding the environmental consequences of the proposed project to the decision makers who will be considering and reviewing the proposed project. The following guidelines are included in CEQA to clarify the role of an EIR:

**§15121(a). Informational Document.** An EIR is an informational document which will inform public agency decision makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR, along with other information which may be presented to the agency.

**§15146. Degree of Specificity.** The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.

- (a) An EIR on a construction project will necessarily be more detailed in the specific effects of a project than will an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.
- (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

**§15151. Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently considers environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.



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## SUMMARY

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The project addressed by this EIR is the development of land in conformance with the *Alviso Master Plan* and the City of San Jose's General Plan. As part of the implementation program for the master plan, there are certain amendments to the City's General Plan that are also proposed. The *Alviso Master Plan* is a policy document, separate from the General Plan, that provides the background, vision, and character to guide the future of the Alviso Planned Community. The *Master Plan* establishes the location, intensity, and character of land uses; the circulation pattern; and necessary infrastructure improvements to support development. In addition, the *Plan* consists of the objectives, policies, design guidelines, and implementation measures to direct development of residential, commercial, industrial, mixed, and open space uses in the *Plan* area. The proposed land uses and their location, intensity and character would be incorporated into the *San Jose 2020 General Plan* in the form of the Alviso Planned Community.

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### SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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IMPACT	MITIGATION
<b>Land Use Impacts</b>	
Implementation of the proposed <i>Master Plan</i> would not cause divisions in an established neighborhood nor will it result in displacement of significant numbers of people. <b>(Less Than Significant Impact)</b>	No mitigation is required.
Development of a multi-story non-residential development such that it would result in windows overlooking private open space, or development of residential private open space uses within the direct line of sight of non-residential windows would create a significant disruption of residential activities. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Urban Conservation Policy #1</i> , <i>Urban Conservation Policy #2</i> , <i>Industrial Land Use Policy #1</i> , <i>Industrial Land Use Policy #10</i> , and <i>Urban Design Policy #1</i> , with the City's adopted Residential Design Guidelines and Industrial Design Guidelines, will reduce potential impacts from visual intrusion to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b>



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## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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IMPACT	MITIGATION
<b>Land Use Impacts, Continued</b>	
Development of future residential or non-residential land uses could create conflicts with access to residential, educational, and/or recreational properties. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Residential Land Use Policy #2, Residential Land Use Policy #9, Commercial Land Use Policy #5, Commercial Land Use Policy #15, Transportation, Parking, Policy #25, Transportation (Truck Facilities) Policy #23, and Parks and Recreation Policy #13</i> , with the City's adopted Residential Design Guidelines and Industrial Design Guidelines, will reduce potential impacts related to access and safety to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b>
The proposed Urban Service Area expansion will create a significantly increased potential for litter, trespassing, vandalism and conflicts with established recreational uses. <b>(Significant Impact)</b>	<b>Significant Unavoidable Impact</b>
Impacts from ongoing agriculture upon proposed urban development would not constitute a significant health or land use compatibility impact. <b>(Less Than Significant Impact)</b>	No mitigation is required.
The implementation of the <i>Alviso Master Plan</i> will not result in the development of land uses subject to significant constraints from conditions outside the study area. <b>(Less Than Significant Impact)</b>	No mitigation is required.
Expansion of the USA boundary would have significant effects on the sensitive Baylands habitats, whose protection is an environmental goal identified in the City of San Jose's General Plan, and will disturb the existing residential neighborhood. The proposed USA expansion would create significant adverse land use conflicts. <b>(Significant Impact)</b>	<b>Significant Unavoidable Impact</b>
Implementation of the Master Plan will result in a significant loss of agricultural land. <b>(Significant Impact)</b>	<b>Significant Unavoidable Impact</b>



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## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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IMPACT	MITIGATION
<b>Flooding and Drainage Impacts</b>	
<p>The proposed Alviso Master Plan includes areas within the existing 100-year tidal and freshwater flood plain. After completion of the Guadalupe River flood control project, only tidal flooding will continue to be a factor. Development within this area would be exposed to potentially significant impacts associated with tidal flooding, including property damage and safety risks. <b>(Significant Impact)</b></p> <p>Implementation of the proposed <i>Master Plan</i>, including the Urban Service Area expansion, would result in potentially significant storm drainage impacts, in that it would generate total and peak event stormwater flows in excess of the capacity of existing stormwater collection and disposal systems. <b>(Significant Impact)</b></p> <p>Future development allowed by the <i>Alviso Master Plan</i> could be exposed to high groundwater levels, which can result in damage to structures. <b>(Significant Impact)</b></p> <p>New development in the <i>Master Plan Area</i> will increase stormwater runoff, and will increase the amount of contamination in that runoff. <b>(Significant Impact)</b></p>	<p>Conformance with General Plan policies, including <i>Flooding Policy #1, Flooding Policy #4, Residential Land Use Policy #5, Level of Service (Storm Drainage and Flood Control) Policy #12, Level of Service (Storm Drainage and Flood Control) Policy #15, and Water Resources Policy #7</i>, and with the City's Flood Hazard Ordinance, will reduce potential impacts from flooding to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b></p> <p><b>Significant Unavoidable Impact</b></p> <p>Conformance with the Uniform Building Code, and with the recommendations of project-specific geotechnical investigations will reduce potential structural impacts from high groundwater to less than significant. <b>(Less Than Significant Impact With Mitigation)</b></p> <p>Conformance with General Plan policies, including <i>Water Resources Policy #8 and Baylands Policy #5</i>, and with the Countywide Nonpoint Source Program, will reduce water quality impacts from development within the Urban Service Area to less than significant. <b>(Less Than Significant Impact With Mitigation)</b></p>



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## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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IMPACT	MITIGATION
<b>Geology, Soils and Seismicity Impacts</b>	
The proposed Master Plan will result in future development being built on sites which contain expansive soils, unengineered fill materials, and/or Bay Mud, which would pose a substantial hazard to property and/or human life. Construction of public infrastructure on sites subject to potentially significant differential settlement could result in an excessive maintenance burden that would impact both the reliability of critical services and the ability of the City to maintain infrastructure in other areas. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Soils and Geologic Conditions Policy #1, Soils and Geologic Conditions Policy #2, Soils and Geologic Conditions Policy #5, Soils and Geologic Conditions Policy #6, Soils and Geologic Conditions Policy #8, Earthquake Policy #1, Earthquake Policy #5, and Hazards Policy #1</i> , and conformance with City Ordinances will reduce potential impacts from implementation of the <i>Alviso Master Plan</i> within the Urban Service Area boundary to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b>
Future development allowed by the <i>Alviso Master Plan</i> would be exposed to potentially significant seismic impacts. <b>(Significant Impact)</b>	Development with General Plan policies, including <i>Earthquake Policy #1 and Earthquake Policy #5</i> , would reduce impacts from development within the existing Urban Service Area to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b>
Development in the area of the proposed USA expansion could result in structures, including infrastructure such as roads and utility lines, sustaining significant damage due to settlement or during a seismic event. <b>(Significant Impact)</b>	Conformance with General Plan <i>Hazards Policy #1</i> , avoiding development where hazards cannot be mitigated, would reduce this impact to a less than significant level. In the absence of site-specific information about the land within the USA expansion, this impact is considered significant and unavoidable. <b>(Significant Unavoidable Impact)</b>
<b>Vegetation and Wildlife Impacts</b>	
Loss of agricultural and ruderal habitats as a result of implementation of the Master Plan will not result in a significant loss of habitat or interruption of regional wildlife movements. <b>(Less Than Significant Impact)</b>	No mitigation is required.



**SUMMARY OF ENVIRONMENTAL  
IMPACTS AND MITIGATION MEASURES**

IMPACT	MITIGATION
Vegetation and Wildlife Impacts, Continued	
<p>The displacement of salt marsh harvest mouse and/or Burrowing Owl populations resulting from implementation of the proposed Master Plan would be a significant impact. <b>(Significant Impact)</b></p>	<p>Conformance with General Plan policies, including <i>Species of Concern Policies #1, #2, and #3</i>, and with Federal and State laws and policies regarding listed species, will avoid significant impacts to those species. In the absence of designated replacement habitat, the loss of habitat for salt marsh harvest mice and Burrowing Owls is a significant unavoidable impact. <b>(Significant Unavoidable Impact)</b></p>
<p>Implementation of the proposed Master Plan could result in significant impacts to jurisdictional Waters of the United States through loss of wetland, aquatic and diked salt marsh habitats. <b>(Significant Impact)</b></p>	<p>Conformance with General Plan policies, including <i>Bay and Baylands Policy #3, Bay and Baylands Policy #4, and Bay and Baylands Policy #6</i>, and with State and Federal laws and policies will reduce impacts resulting from development within the existing USA boundary. Since the project includes development on unpermitted fill placed within diked salt marsh, the expansion of the USA boundary would result in a significant unmitigated impact. <b>(Significant Unmitigated Impact)</b></p>
<p>Development in the vicinity of either Coyote Creek, or the Guadalupe River has the potential to significantly impact adjacent riparian habitats. <b>(Significant Impact)</b></p>	<p>Conformance with General Plan policies, including <i>Urban Design Policy #17, Riparian Corridors and Upland Wetlands Policy #1, Riparian Corridors and Upland Wetlands Policy #2, Riparian Corridors and Upland Wetlands Policy #3, Riparian Corridors and Upland Wetlands Policy #4, and Riparian Corridors and Upland Wetlands Policy #5</i> and with the City's Riparian Corridor Policy Study will reduce impacts to riparian habitats to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b></p>
<p>Contaminated runoff from the future development could contribute to the degradation of aquatic habitat in the Guadalupe River, Artesian Slough, and New Chicago Marsh. <b>(Significant Impact)</b></p>	<p>Conformance with <i>Water Resources Policy #8</i> and with the Countywide Nonpoint Source Program will reduce water quality impacts to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b></p>



## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

IMPACT	MITIGATION
Public Health and Safety Impacts	
Development allowed under the <i>Alviso Master Plan</i> could result in potential hazardous materials impacts associated with future residential, commercial, and industrial uses on potentially contaminated sites. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Hazards Policy #1</i> and <i>Hazardous Materials Policy #3</i> , and with local, State and Federal laws and regulations will reduce potential impacts from developing on contaminated property to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b>
The potential storage, handling, and use of acutely hazardous materials by industrial uses in close proximity (within one-quarter mile) of residential uses, George Mayne School, and both the National Wildlife Refuge and sensitive marsh habitat could also result in significant adverse hazardous materials impacts. <b>(Significant Impact)</b>	Conformance with <i>Hazardous Materials Policy #1</i> and with local, State and Federal laws and regulations will reduce these potential impacts, but cannot reduce the risk to a less than significant level. <b>(Significant Unavoidable Impact)</b>
Implementation of the <i>Master Plan</i> would not result in significant adverse health impacts due to exposure to compost bioaerosols. <b>(Less Than Significant Impact)</b>	No mitigation is required.
New development within the <i>Master Plan Area</i> near high voltage electric transmission lines could be exposed to EMF levels greater than 2 mG. Although EMF cannot currently be regarded as a potential hazard under CEQA, it would be prudent to setback residences and other uses from high voltage transmission lines. <b>(Less Than Significant Impact)</b>	No mitigation is required.
The proposed USA expansion could introduce additional industrial uses within 1,000 feet of residential uses and within 300 feet of the Refuge. The potential storage, handling, and use of "acutely" hazardous materials by industrial uses in close proximity to residential uses and sensitive habitats could result in significant adverse hazardous materials impacts. <b>(Significant Impact)</b>	Conformance with <i>Hazardous Materials Policy #1</i> and with local, State and Federal laws and regulations will reduce this potential impact to a less than significant impact. <b>(Less Than Significant Impact With Mitigation)</b>



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## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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IMPACT	MITIGATION
<b>Cultural Resources</b>	
Development allowed under the General Plan land use classifications proposed in the <i>Alviso Master Plan</i> could have potentially significant impacts to subsurface cultural resources. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Historic, Archaeological and Cultural Resources Policy #1, Historic, Archaeological and Cultural Resources Policy #8, and Historic, Archaeological and Cultural Resources Policy #9</i> will reduce potential impacts to prehistoric cultural resources to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b>
Development allowed under the General Plan land use classifications proposed in the <i>Alviso Master Plan</i> could result in significant impacts to historic resources. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Historic, Archaeological and Cultural Resources Policy #1, Historic, Archaeological and Cultural Resources Policy #5, Historic, Archaeological and Cultural Resources Policy #6</i> will reduce potential impacts to historic resources to a less than significant level. <b>(Less Than Significant Impact With Mitigation)</b>
<b>Visual Impacts</b>	
Future development allowed under the proposed <i>Master Plan</i> land use classifications north of State Street and on the Cargill landfill site could obscure scenic views. Lighting and noise impacts could also occur in the event outdoor uses near residential development or near the San Francisco Bay Refuge are intensified. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Industrial Land Use Policy #1, Urban Design Policy #2, Urban Design Policy #22, and Bay and Baylands Policy #6</i> and with adopted design guidelines will reduce potential visual impacts, but cannot offset the significant visual change associated with developing industrial park uses on the Cargill landfill site. <b>(Significant Unavoidable Impact)</b>
The proposed USA expansion will result in development that is visually out of scale with its surroundings and visually prominent from within established recreational and educational facilities. In addition, the proposed expansion of the Urban Service Area could produce substantial lighting and glare impacts to the habitat areas in and adjacent to New Chicago Marsh. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Industrial Land Use Policy #1, Urban Design Policy #2, Urban Design Policy #22, and Bay and Baylands Policy #6</i> and with adopted design guidelines will reduce potential visual impacts, but cannot offset the significant visual impacts that would result from placing industrial uses in New Chicago Marsh. <b>(Significant Unavoidable Impact)</b>



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## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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IMPACT	MITIGATION
<b>Transportation Impacts</b>	
Implementation of the proposed Master Plan would cause incremental changes in the city-wide transportation and circulation system. These changes would not meet the threshold for significant adverse impacts. <b>(Less Than Significant Impact)</b>	No mitigation is required.
Implementation of the proposed <i>Alviso Master Plan</i> would not result in additional significant traffic congestion through travel corridors based on screenline analysis criteria. <b>(Less Than Significant Impact)</b>	No mitigation is required.
<b>Noise Impacts</b>	
Traffic generated by buildout of the site would increase noise levels on the local street system. Future traffic, however, will not cause noise levels to increase perceptibly beyond anticipated levels associated with buildout of the existing General Plan. <b>(Less Than Significant Impact)</b>	No mitigation is required.
Traffic generated by buildout of the site would increase noise levels on the local street system. Future traffic, however, will not cause noise levels to increase perceptibly beyond anticipated levels associated with buildout of the existing General Plan. <b>(Less Than Significant Impact)</b>	
Noise levels in the <i>Alviso Master Plan Area</i> are compatible with the proposed land uses, assuming that the buildings are of typical construction. <b>(Less Than Significant Impact)</b>	No mitigation is required.
Buildings nearest the Southern Pacific railroad may be exposed to vibration; there are no new, potentially sensitive, vibration receptors proposed under the Master Plan for locations near the railroad. <b>(Less Than Significant Impact)</b>	No mitigation is required.



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**SUMMARY OF ENVIRONMENTAL  
IMPACTS AND MITIGATION MEASURES**

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IMPACT	MITIGATION
<b>Noise Impacts, Continued</b>	
<p>Construction noise associated with new development could temporarily increase noise levels in existing residential development. Pile driving near or adjacent to sensitive land uses could create significant noise or vibration impacts. <b>(Significant Impact)</b></p>	<p>Conformance with General Plan policies, including <i>Noise Policy #9</i> and <i>Noise Policy #12</i> will reduce most potential construction noise to a less than significant level. No mitigation was identified to reduce pile-driving noise next to a sensitive land use to a less than significant level. <b>(Significant Unavoidable Impact)</b></p>
<b>Air Quality and Odors Impacts</b>	
<p>Traffic from buildout of the Master Plan will have a significant impact on regional air quality. <b>(Significant Impact)</b></p>	<p>Conformance with General Plan policies, including <i>Air Quality Policy #1</i> and <i>Transportation System Management/Transportation Demand Management Policy #20</i>, would reduce air quality impacts from traffic, but not below a level of significance. <b>(Significant Unavoidable Impact)</b></p>
<p>Future industrial uses allowed under the Master Plan could release toxic air contaminants that pose health risks to nearby sensitive land uses, including residential uses and George Mayne Elementary School. <b>(Significant Impact)</b></p>	<p>Conformance with local, State and Federal laws and regulations will reduce potential impacts, but cannot avoid the risks such contaminants may pose to the school.</p> <p>Creation of a buffer zone of vacant land, or imposition of restrictions on air emissions within one-quarter mile of the school could reduce this impact to a less than significant level. <b>(This mitigation is not proposed at this time. Significant Unmitigated Impact)</b></p>
<p>Air quality impacts resulting from construction, particularly generation of construction dust, could cause significant adverse effects to nearby land uses. <b>(Significant Impact)</b></p>	<p>Conformance with <i>Air Quality Policy #1</i> and with the City's Grading Ordinance would reduce air quality impacts to a less than significant level. <b>(Less Than Significant Impact)</b></p>



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## SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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IMPACT	MITIGATION
<b>Energy Impacts</b>	
Development of the proposed land uses in the <i>Alviso Master Plan</i> would contribute incrementally to the use of energy for development and ongoing maintenance and operations. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Residential Land Use Policy #21</i> , <i>Commercial Land Use Policy #14</i> , <i>Industrial Land Use Policy #13</i> , <i>Energy Policy #4</i> and the Uniform Building Code and State laws will reduce potential energy impacts to a less than significant level. <b>(Less Than Significant Impact)</b>
<b>Services and Utilities Impacts</b>	
Buildout of the Master Plan will contribute incrementally to the demand for urban services, including street capacity, sanitary sewer lines and sewage treatment, storm drainage, solid waste collection and disposal, water, gas, electricity and telephone service. Existing and planned systems are adequate to accommodate demands other than for storm drainage. Development planned in and near the existing town area will cause increased runoff to enter local storm drains which provide less than three-year storm capacity. <b>(Significant Impact)</b>	Conformance with General Plan policies, including <i>Level of Service Policy #2</i> , <i>Level of Service (Sanitary Sewer System) Policy #6</i> , <i>Level of Service (Sewage Treatment) Policy #7</i> , <i>Level of Service (Sewage Treatment) Policy #8</i> , <i>Transportation (Thoroughfares) Policy #8</i> , <i>Level of Service (Sewage Treatment) Policy #9</i> , and <i>Water Resources Policy #11</i> will reduce most utility and services impacts to a less than significant level. Proposed development will contribute to localized backups and exceedances of the existing undersized and aging stormwater and sanitary sewer systems. <b>(Significant Unmitigated Impact)</b>

### Alternatives to the Proposed Project

In conformance with CEQA and the CEQA Guidelines, the EIR discusses and compares the impacts which might be anticipated from alternatives to the project as proposed. CEQA requires that a No Project alternative be addressed, including both a scenario in which no further development occurs. Because the project is a master plan and a General Plan Amendment, the No Project discussion includes both “No Change in the General Plan”, and no further development. The “No Development” scenario results in less impacts than the proposed project, and the “No Change in the General Plan” results in similar impacts in most areas, but is environmentally superior to the proposed Master Plan in certain aspects, including less potential hazardous materials impacts to the school and it avoids the potential impacts associated with the Urban Service Area expansion.

The other two alternatives discussed include an “Increased Residential Alternative” that provides for more residential units, and also proposes slightly less intense land uses at certain other locations, and a “Reduced Scale Alternative” that does not include the Urban Service Area expansion and leaves



certain other properties with their existing land use designations. The Increased Residential Alternative is environmentally superior to the proposed project because it avoids the potential hazardous materials impacts to the school. The Reduced Scale Alternative is also environmentally superior to the proposed project because it avoids the impacts of the Urban Service Area expansion and the potential impacts of building on the Cargill landfill property.

Because the proposed project consists of changing the land use designations on property in the Alviso area, it was determined that discussing an alternative location would not provide a meaningful analysis.

### **Cumulative Impacts**

[To be provided.]

### **Areas of Controversy and Views of Local Groups**

The proposed Master Plan was designated as a preferred alternative by a citizens task force chaired by the Councilmember representing the area and staffed by the City.

## **I. DESCRIPTION OF THE PROPOSED PROJECT**

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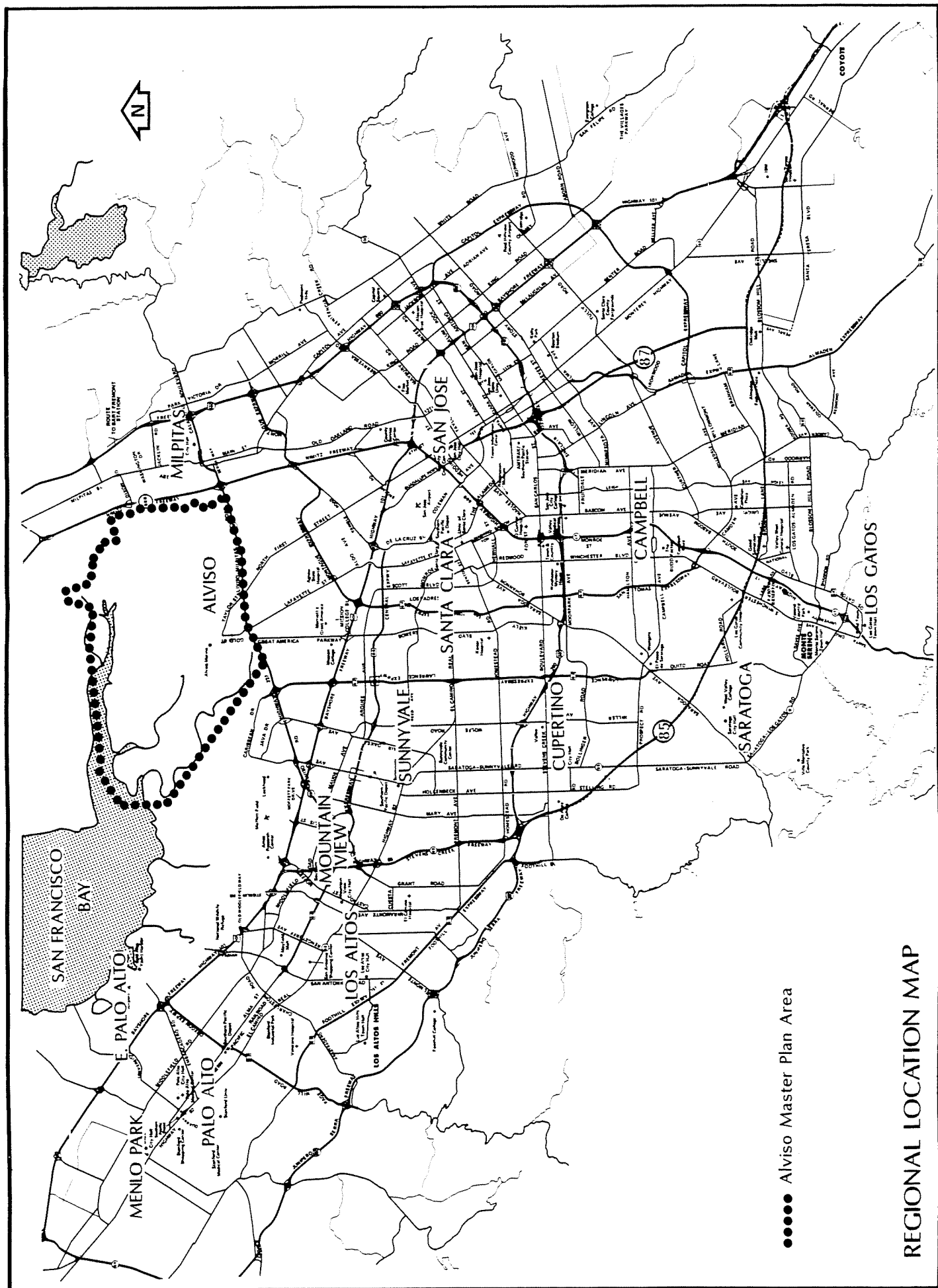
### **A. PROJECT LOCATION**

The Alviso Planned Community and the *Alviso Master Plan* comprise an area of approximately 10,730 acres located in the northernmost portion of San Jose adjacent to San Francisco Bay. The area is generally bounded by San Francisco Bay to the north, Coyote Creek to the east, Route 237 to the south, and the Guadalupe River to the west. The San Francisco Bay National Wildlife Refuge and salt ponds occupy most of the area in Alviso that is outside the Urban Service Area. The regional setting for the *Master Plan Area* is shown in Figure 1, and the immediate vicinity of the study area is shown in Figure 2. An aerial photograph that calls out a number of physical features, landmarks, and adjacent land uses is shown in Figure 3.

### **B. DESCRIPTION OF THE PROJECT**

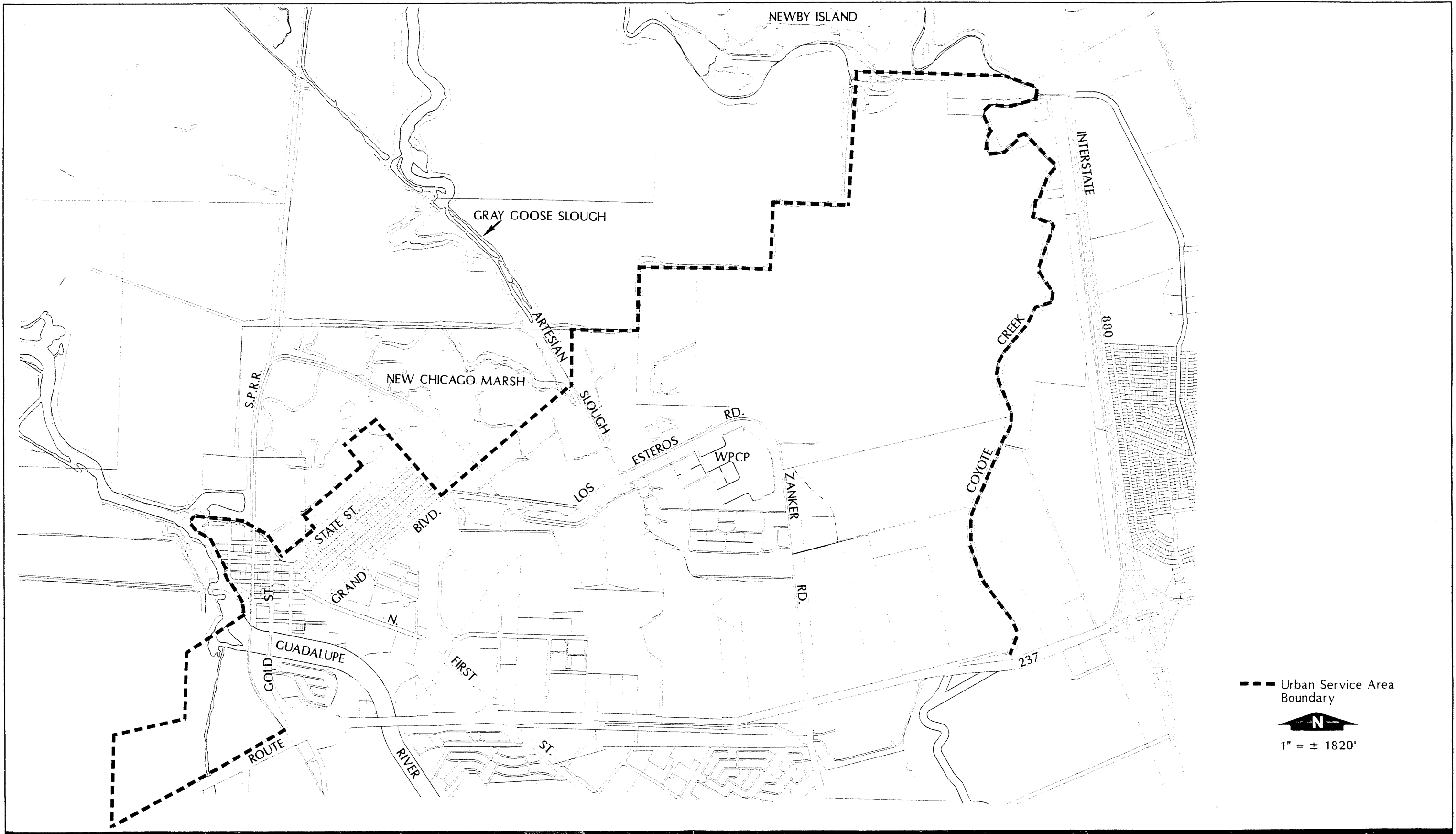
The project addressed by this EIR is the development of land in conformance with a land use master plan and the City of San Jose's General Plan. As described in more detail below, the land use master plan was developed by a citizens' task force and is proposed as a long term guide to development in the Alviso Planning Area of north San Jose. As part of the implementation program for the master plan, there are certain amendments to the City's General Plan that are also proposed. This EIR, therefore, evaluates the potential environmental consequences of the following:

- *Alviso Master Plan: A Specific Plan for the Alviso Community* (subsequently referred to as the *Alviso Master Plan* or *Plan*).
- Amendments to the text and Land Use/Transportation Diagram of the *San Jose 2020 General Plan (SJ2020)* to establish the Alviso Planned Community (subsequently referred to as the Planned Community), including:
  - Expansion of the Urban Service Area by approximately 14 acres
  - Deletion of the major collector extending from the current terminus of Nortech Parkway to Zanker Road
  - The following General Plan designations:
    - Medium Density Residential (8-12 DU/AC) on 10 acres
    - Medium Density Residential (8-12 DU/AC) with Retail Overlay on 3 acres
    - Medium High Density Residential (8-16 DU/AC) on 71 acres
    - Medium High Density Residential (8-16 DU/AC) with Retail Overlay on 1 acre
    - Mixed Use on 53 acres
    - General Commercial on 4 acres
    - River Commercial on 8 acres
    - Combined Industrial/Commercial on 107 acres
    - Industrial Park on 254 acres
    - Light Industrial on 196 acres



REGIONAL LOCATION MAP





VICINITY MAP

FIGURE 2





AERIAL PHOTOGRAPH AND ADJACENT LAND USES

FIGURE 3



- Public/Quasi-Public on 1,755 acres
  - Public Park/Open Space on 90 acres
  - Private Open Space without Solid Waste Overlay on 33 acres
  - Private Open Space with Solid Waste Overlay on 131 acres
- Two text amendments to the *San Jose 2020 General Plan* to: (1) delete Residential Land Use Policy #14 regarding Alviso; and (2) add a solid waste policy to address appropriate end uses of closed landfills.

The *Alviso Master Plan* is a policy document, separate from the General Plan, that provides the background, vision, and character to guide the future of the Alviso Planned Community. The *Master Plan* establishes the location, intensity, and character of land uses; the circulation pattern; and necessary infrastructure improvements to support development. In addition, the *Plan* consists of the objectives, policies, design guidelines, and implementation measures to direct development of residential, commercial, industrial, mixed, and open space uses in the *Plan* area. The proposed land uses and their location, intensity and character would be incorporated into the *San Jose 2020 General Plan* in the form of the Alviso Planned Community.

The *Alviso Master Plan* contains a detailed set of policies and implementation measures to guide the future development in the *Plan* area. The *Plan* provides guidelines to ensure that any new development is compatible with the existing character of existing housing, historic structures, baylands, and other sensitive elements. The *Plan* also identifies the potential location of community facilities, other desired community improvements, and the implementation activities required to realize the *Plan*. The *Plan* provides detailed direction for the review of infrastructure improvements, rezoning, and development permit applications within the Planned Community. In this way, the *Alviso Master Plan* supplements the Alviso Planned Community text in the General Plan and is essential to the understanding and proper implementation of the Planned Community.

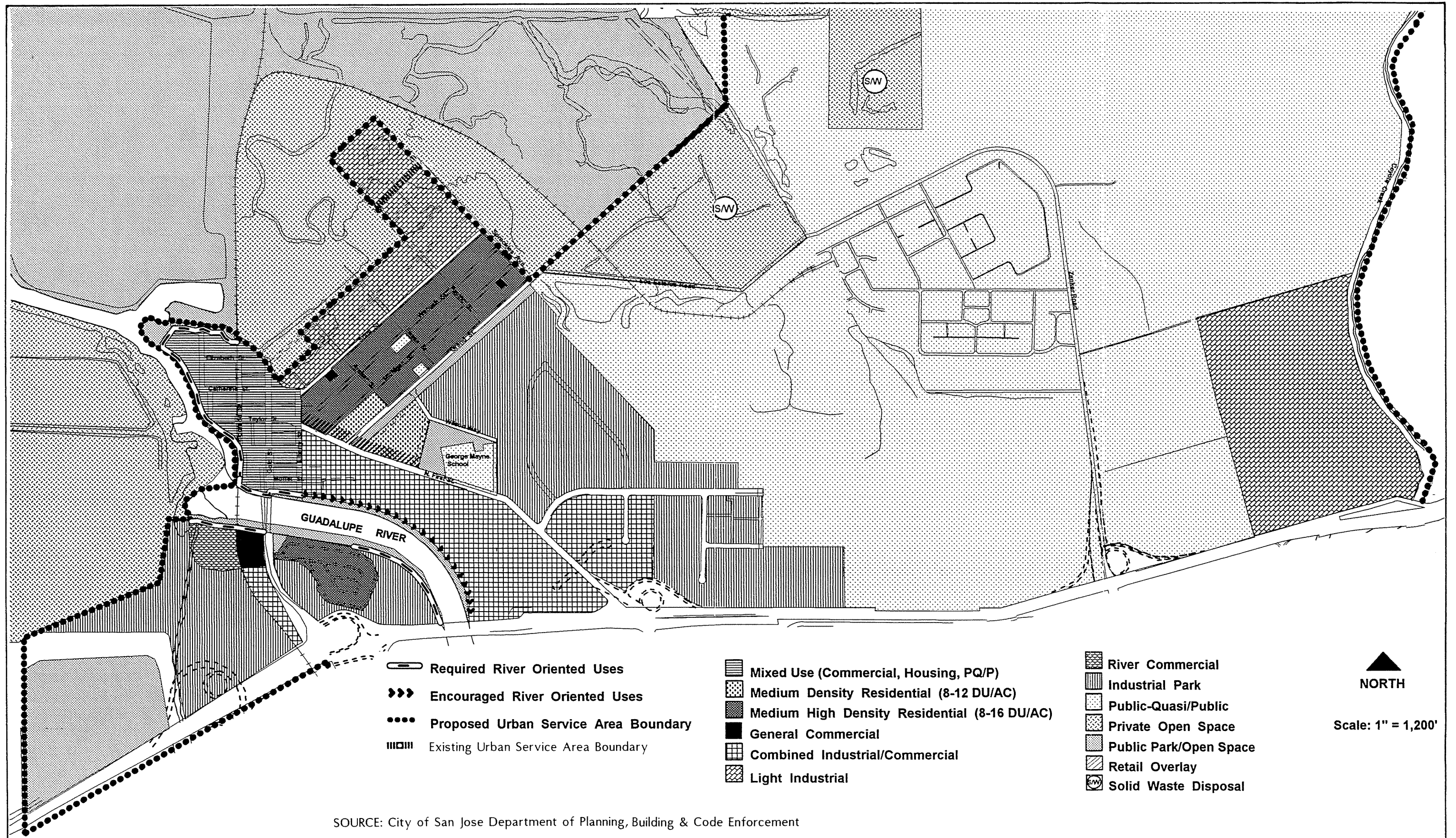
The existing General Plan designations allow 773 residential units, 61,677 square feet of commercial, 210,715 square feet of combined industrial/commercial, and 2,084,967 square feet of industrial development.<sup>1</sup>

The proposed *Alviso Master Plan* land use designations would allow the development of 774 dwelling units, one more unit above existing General Plan land use designations. The proposed Planned Community would provide for new development of approximately 184 dwelling units, 21,291 square feet of General Commercial building space, 572,724 square feet of Combined Industrial/Commercial buildings, 1,222,182 square feet of Industrial Park buildings, 595,080 square feet of Light Industrial buildings, 10,000 square feet of Mixed Use structures, and 40,661 square feet of River Commercial buildings. The new projected development could yield a total of 2,461,938 square feet compared with a yield of 2,357,359 square feet of non-residential building space under existing General Plan designations. The new proposed *Master Plan* land use designations are shown on Figure 4.

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<sup>1</sup>This and all subsequent estimates of development potential which might occur are based on past land use patterns in the City. These numbers do not represent either a possible maximum or an unrealistic minimum, but are derived from prevailing patterns in similar areas.





Each General Plan land use and overlay designation listed above is described in more detail below. Some of the designations include general urban design direction to ensure that new development within Alviso is compatible with its surroundings.

*Medium High Density Residential (8-12 du/ac).* The intent of this designation is to provide for an expansion of Alviso's existing residential core. New development should be a mix of housing types within the 8 to 12 units per acre density range: single-family detached housing, duplexes, and townhouses. Any new housing should generally replicate the development pattern of the existing neighborhood in terms of building sizes, frontage on a public street, front setbacks and degree of architectural variation among individual buildings. New development should occur primarily as single family detached houses or small individual projects (on sites of no more than 12,000 square feet), or have the appearance of individual projects by the use of distinctly different building materials, architectural details, building volumes and colors for adjoining projects.

*Medium High Density Residential (8-16 du/ac).* This designation is applied to the existing residential core and is intended to reflect and perpetuate the general character of it, while allowing some small scale development on infill parcels. New development is expected to occur primarily on the few remaining vacant parcels but could also occur as the replacement of existing houses in limited instances. The pattern of all new development should be consistent with the existing pattern of development - primarily single-family homes on individual lots with traditional setbacks and a frontal relationship to the street. Small attached projects occupying no more than two contiguous lots (approximately 12,000 square feet total) may be permitted but only if they conform to the setback and street orientation requirements. Two or more small attached projects may occur on adjoining sites only if they are designed to appear unrelated in terms of specific materials, architectural details, building volumes and color. The *Medium High Density Residential* designation is not intended to preclude lower density development consistent with the character of the neighborhood. This designation is also applied to an existing mobile home park which is expected to remain as a permanent part of the community.

*Mixed Use.* This designation allows a broad range of uses, including civic/public, residential, office, and/or retail uses. Any of the allowed uses may occur in single purpose buildings or sites, or may be combined with one or more of the other allowed uses in a single building. Residential development may take any form but should not exceed 16 dwelling units per acre, whether in single purpose or multi-use projects. New development should be consistent with the modest scale, front setback pattern, and street orientation of nearby existing development. Buildings with lower floor commercial uses and upper floor residential uses are encouraged. To the extent feasible, historic buildings should be rehabilitated and reused for a variety of activities.

*General Commercial.* At the Guadalupe River/Gold Street location, this designation allows a wide range of commercial activities, including retail, neighborhood service, business and professional office, active recreation uses and small scale visitor lodging but not those commercial uses with industrial components such as self service warehouses and automotive services. On the sites within the existing residential core, only small scale retail and office uses are intended.

*River Commercial.* This designation is applied to lands along the Guadalupe River outside the more active areas in the western grid. This designation is intended to be more limited than the General Commercial and Mixed Use designations and to promote a positive relationship between the river and adjacent land uses. Allowed land uses are those retail, service and recreational uses which are



primarily intended to serve persons who are using, visiting and/or viewing Alviso's river related amenities, for instance, the river itself, trails, the National Wildlife Refuge, the Alviso Yacht Club, historic sites and buildings, etc. Appropriate uses include restaurants; retail sales of specialty foods; gifts; sundries; boating, hiking and biking equipment and supplies; boat and bike services; museums and galleries; and bed and breakfast visitor lodging. Development on these sites should be designed to reflect and acknowledge the river environment by orienting seating areas, windows, decks, balconies and open space to the river and orienting utility, storage and trash areas away from it.

*Combined Industrial/Commercial.* This designation allows either commercial or industrial uses or a compatible mixture. Commercial uses could include retail, restaurant, office, hotel, or other commercial establishments. Under this designation in Alviso, a suburban type shopping center is appropriate, preferably located close to North First Street and Route 237. A wide range of industrial uses are also allowed under this designation as long as there are no unmitigated hazardous or nuisance effects. All development in this designation should be attractive and well-landscaped. Uses that tend to be unattractive (e.g., auto repair, junk yards, open storage, etc.) must be well-screened. Along Gold Street and at the corners of North First Street and Route 237, new development should contribute a "gateway feel" to these entrances to Alviso through landscaping, signage, building placement, or other features.

*Industrial Park.* This designation allows a wide variety of industrial uses so long as appropriate mitigation can be implemented to eliminate nuisance and hazardous materials effects. Office uses as well as limited retail sales and service establishments are appropriate uses in this designation. An *Industrial Park* development may be either a single use or a development containing several separate uses, which is zoned, planned, and managed as a unit. Large scale, high volume, single entity commercial uses are not suitable under this designation in Alviso. Such uses are more appropriate under the *Combined Industrial/Commercial* or *General Commercial* designations. All new construction should be attractive and well-landscaped, following more stringent performance and design standards than the *Light Industrial* designation.

Development under this designation on the Cargill Salt property is limited to two story buildings. Structures should be placed in areas where it can be demonstrated that appropriate construction techniques can be utilized to minimize any and all adverse geotechnical impacts. It is expected that development on this site would include significant amounts of open space and appropriate landscaping, given the configuration of the hill and its steep slopes.

*Light Industrial.* This designation allows a wide variety of industrial uses, excluding any uses with unmitigated hazardous or nuisance effects. Examples of typical uses are warehousing, wholesaling, light manufacturing, and industrial supplier/service businesses (businesses which provide needed services or supplies to other businesses). Office uses as well as limited retail sales may be considered appropriate under this designation. Only low intensity uses (i.e., those with low employment densities) are allowed in the *Light Industrial* area located near Coyote Creek. Appropriate screening and landscaping is required along State Street and Route 237 to create a more compatible edge with the adjacent residential neighborhood and to protect views of Alviso from the freeway, respectively. Uses adjacent to the marshland need to be environmentally sensitive by minimizing non-point source pollution and other negative impacts.

*Retail Overlay.* This designation encourages retail and restaurant uses in addition to or instead of residential uses along the north side of North First Street, reflecting the existing mixed residential

and retail character of the street. Retail and restaurant uses foster pedestrian activity, create an opportunity for community interaction, and provide needed services. The overlay extends to a depth of approximately 110 feet from the front property line.

*Public/Quasi-Public.* This designation identifies public land uses such as libraries, schools, fire stations, post offices, and the Water Pollution Control Plant and its buffer lands. Lands used by particular private institutions are also designated *Public/Quasi-Public*, such as churches and the Alviso Family Health Clinic.

*Public Park/Open Space.* This designation is applied to existing City and County parks, the San Francisco Bay National Wildlife Refuge, trail corridors along the Guadalupe River, and a PG&E easement. Active and passive recreation activities are suitable within this designation. These lands are owned by public agencies, although facilities and activities developed and operated wholly or partially by concessionaires and other private entities are also appropriate under this designation.

*Private Open Space.* This designation is applied to privately owned lands for low intensity, open space activity. On properties outside the Urban Service Area, *Private Open Space* is applied to the salt ponds. Within the Urban Service Area, this designation is found on private vacant land north of Los Esteros Road and on a wetland mitigation area located adjacent to Route 237.

*Solid Waste Landfill Overlay.* This overlay designation is applied to currently operating landfills at Newby Island, Zanker Road, and Owens-Corning. Landfill facilities may be either public or private enterprises, and may include related or ancillary activities such as recycling, resource recovery, and composting. The underlying designation of *Private Open Space* is compatible with the *Solid Waste Landfill Overlay*.

## **C. OBJECTIVES OF THE *MASTER PLAN* AND PLANNED COMMUNITY**

The objectives of the *Master Plan* and Planned Community are to:

- Retain small town character, strong community identity, and neighborliness
- Maintain existing pattern of residential development
- Allow for new development at the scale and intensity of existing development within specific subareas
- Provide adequate infrastructure and services
- Provide economic development opportunities
- Celebrate Alviso's history
- Beautify Alviso

## **D. USES OF THE EIR**

The City of San Jose is the Lead Agency under CEQA and requires environmental review prior to initiating its discretionary approvals for the proposed Alviso Planned Community and *Master Plan*. This Program EIR is intended to provide environmental review and to inform the decision-makers and the public of the environmental impacts associated with the proposed development of the Alviso Planned Community and *Master Plan*. This Program EIR may be used by the surrounding jurisdictions and responsible agencies as a reference document.



This EIR will provide the environmental review for the following discretionary actions:

- Amend the text of the *San Jose 2020 General Plan* to incorporate the major features of the *Alviso Master Plan* as the Alviso Planned Community and other associated text amendments;
- Amend the *San Jose 2020 General Plan* Land Use/Transportation Diagram to add the Alviso Planned Community and expand the Urban Service Area by approximately 14 acres; and
- Adopt the *Alviso Master Plan* as a supporting policy document to guide the development of the Alviso area.

Subsequent project actions such as zonings, infrastructure improvements, and development permits for specific projects within the Alviso Planned Community and *Master Plan* would be subject to further environmental review.

#### **E. CONSISTENCY WITH GOALS, PLANS, & POLICIES**

**To be completed by City Staff**

## II. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

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### A. LAND USE

#### 1. Existing Setting

The actions which must be taken to implement the project as proposed include amendment of the City's General Plan Land Use/Transportation Diagram, adoption of the *Alviso Master Plan*, and ultimately development or redevelopment of properties within the *Master Plan* boundary. While amending the General Plan and adopting the *Master Plan* are not actions which themselves will have physical impacts on the environment, they are necessary steps that precede and enable the subsequent development. In order to evaluate the potential impacts of these actions, it is necessary to first identify the existing "environmental setting", both existing physical conditions and the existing General Plan.

For the purposes of this EIR, "land use" refers to activities taking place on real property, as viewed from a human standpoint -- the "use" to which the property is being put. A building is not a land use (although it is a physical condition), since the human activities within and around the building may change over time. Open space *is* a category of land use; it implies the absence of other human activities on the property. This discussion will deal with existing land uses currently present, whether they are "legal" land uses (having appropriate permits or other entitlements) or not. Section II.F., Cultural Resources, addresses past historic uses of the area. The discussion is divided into the existing General Plan land use designations for the area, and the existing physical conditions.

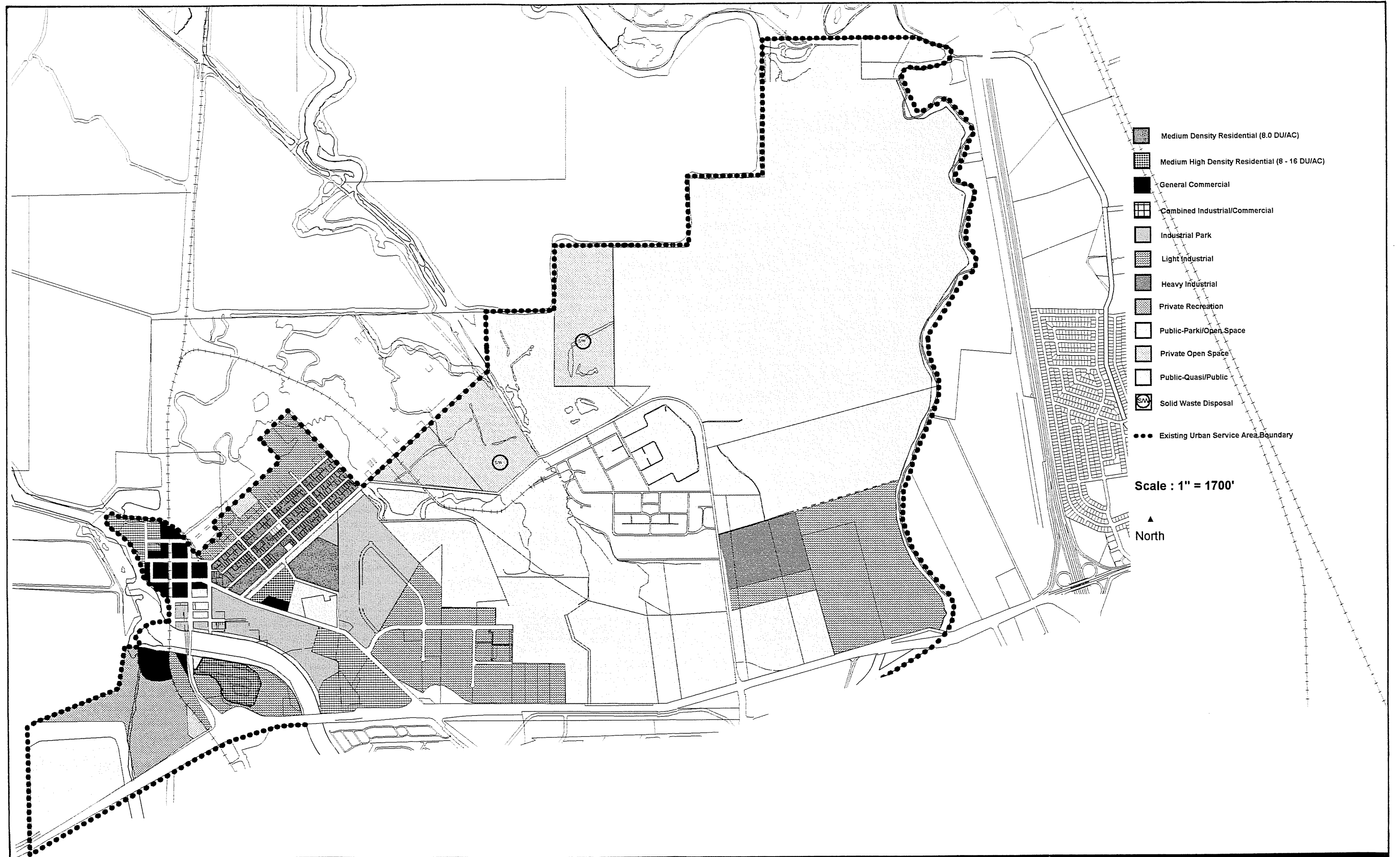
#### **Existing General Plan Designations**

Figures 5 and 6 illustrate the existing General Plan land use designations on the property covered by the *Alviso Master Plan*, both within and outside the existing Urban Service Area (USA) boundary. Table 1 lists the General Plan land use categories and the acreage of property currently designated under each category for the land within the existing USA boundary. The approximately 7,000 acres of land within the *Master Plan Area* and outside the USA boundary is designated for Public Park/Open Space and Private Open Space.

#### ***Urban Service Area Boundary***

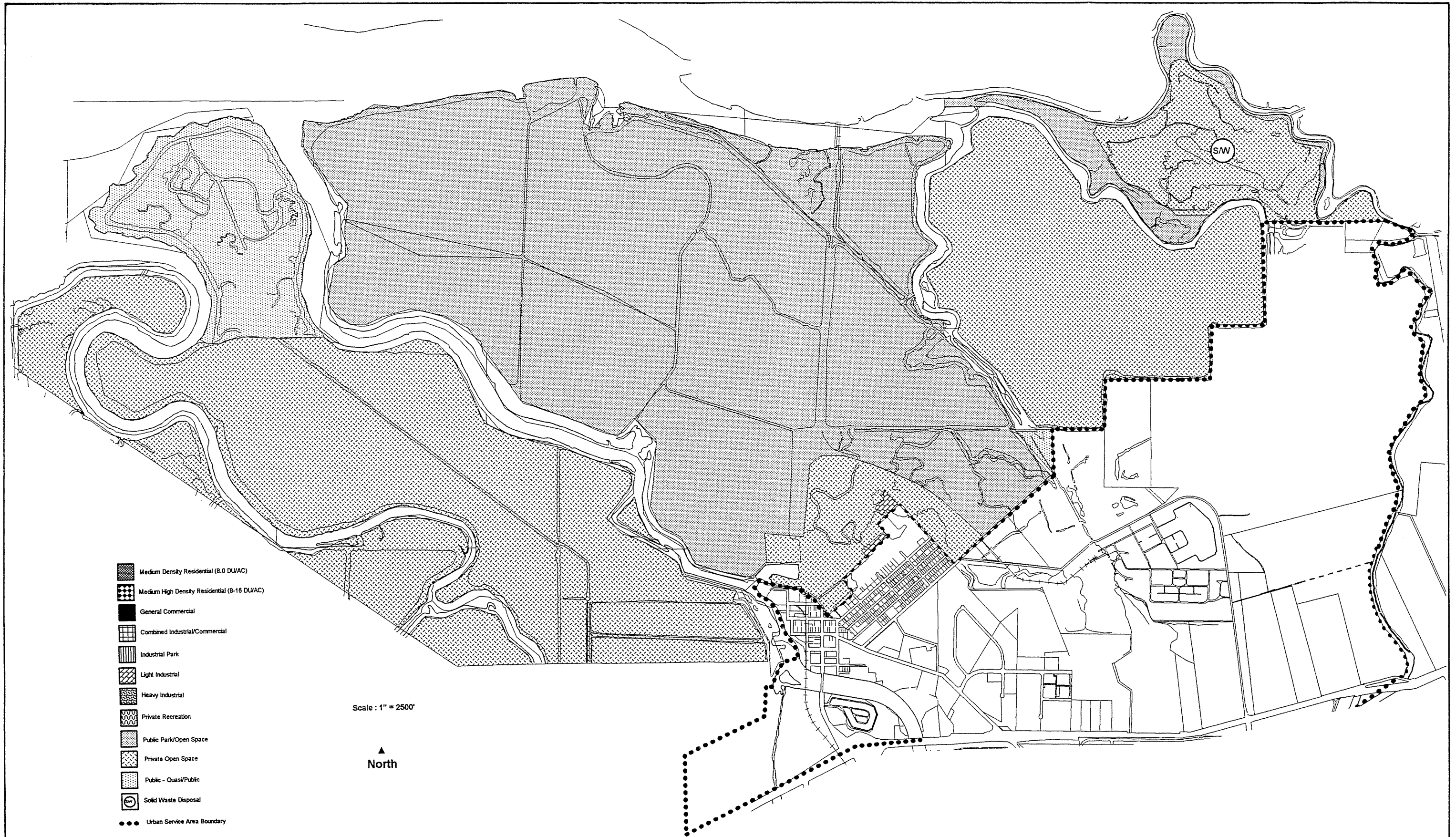
The Urban Service Area (USA) boundary defines the limits of the area within which San Jose is planning for future growth and allows development, during the time frame of the City's adopted General Plan. The USA marks the maximum extent to which the City plans to extend urban services such as streets, sewers, and utilities, and within which the City is prepared to approve development. In the case of lands within or adjacent to baylands, hillsides, and the agricultural lands of south Coyote Valley, the USA boundary also marks the "Greenline", the edge of lands planned to remain in open space through at least the year 2020. The USA boundary through the *Master Plan Area*, therefore, also serves as a Greenline for the purposes of General Plan conformance.





EXISTING GENERAL PLAN INSIDE THE URBAN SERVICE AREA

FIGURE 5



EXISTING GENERAL PLAN OUTSIDE THE URBAN SERVICE AREA

FIGURE 6



<b>TABLE 1</b> <b>Existing General Plan Designations</b> <b>Within the Urban Service Area</b>	
<b>General Plan Designations</b>	<b>Existing General Plan [No Project] (acres)</b>
Medium Density Residential (8 du/ac)	74
Medium Density Residential (8-12 du/ac)	0
Medium High Density Residential (8-16 du/ac)	22
Mixed Use	0
General Commercial	37
Combined Industrial/Commercial	50
Industrial Park	113
Light Industrial	348
Heavy Industrial	45
Public/Quasi-Public	1,397
Public Park/Open Space	404
Private Open Space without Overlay	29
Private Open Space with Solid Waste Overlay	131
Private Recreation	53
River Commercial	0
<b>TOTAL</b>	<b>2,703</b>

The column in Table 1 labeled "Existing General Plan" includes only land covered by the *Alviso Master Plan* that is currently within the USA boundary, exclusive of roads and other right-of-ways.

#### **Existing Land Use**

The *Alviso Master Plan Area* covers approximately 10,730 acres of land which, in turn, includes most of the land uses typically found in an urban community, and a significant quantity of open space and non-urban activities such as salt ponds. As shown on Figure 3, an aerial photograph of the area, the "town" area of Alviso consists of a relatively compact grid street system that is lined by residential uses (both single family and multi-family), commercial activities, and industrial developments that include outdoor storage. There are

also recreational uses, public/quasi-public facilities, and vacant lots. Outside of the town area are the San Francisco Bay Wildlife Refuge, salt ponds, agricultural land, more industrial development, landfills and the regional Water Pollution Control Plant.

Figure 7 illustrates existing land uses within the USA, based on a “windshield” survey done by City Planning staff. Table 2 lists the approximate acreage of each of the land use categories shown on Figure 7.

The residential uses in Alviso include a range of densities and housing types, from single family detached to high density multi-family. Some of the single family houses also have secondary units in accessory structures behind or adjacent to them. Most of the existing residential development in Alviso is clustered in the town area or is contained in the mobilehome park on Gold Street southwest of the Guadalupe River. The 1990 U.S. Census identified 561 occupied dwelling units in the *Master Plan Area*. The current number of dwelling units in the area may be slightly higher.

Commercial and industrial uses are generally found throughout the built up, urban area. Older industrial uses that include outdoor storage, trucking yards, and manufacturing uses are primarily located in the older area of the town west of Taylor/Liberty Streets, along Gold Street southwest of the Guadalupe River, and north of State Street. Public/quasi-public facilities that include churches, a library and a fire station are also scattered through the town area, with a public elementary school and park on North First Street. The regional San Jose/Santa Clara Water Pollution Control Plan (WPCP) occupies much of the easterly portion of the *Master Plan Area*. Agricultural uses which include row crops and horse ranches exist on much of the WPCP-owned property shown on the land use map as “buffer lands”<sup>2</sup>. Agricultural activities that include row crops and greenhouses are also found on the properties in the southeast corner of the *Master Plan Area*. Two landfill/recycling facilities are currently operating within the existing USA, as shown on Figure 7.

Most of the existing land uses outside the USA consist of open space, public park, salt ponds, additional marshlands, and another landfill/recycling facility. Some parcels north of State Street and easterly of the extension of Spreckles Avenue, within New Chicago Marsh, have been filled and are presently used for open storage and similar outdoor industrial activities. There are various infrastructure elements that were built outside the USA, including a railroad line, flood gates, and high voltage electrical lines.

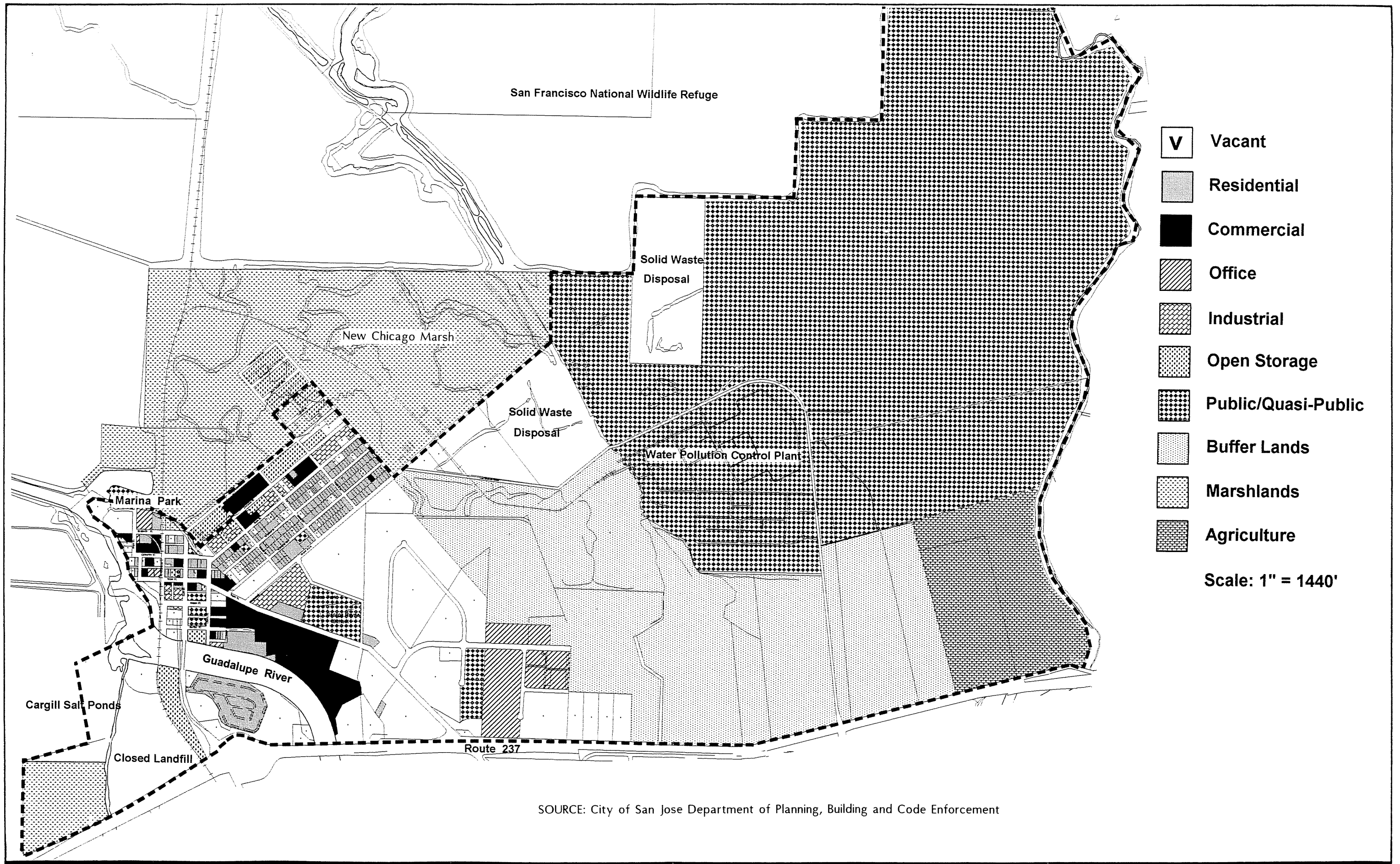
### ***Proposed USA Expansion Lands***

North of the existing urban service area boundary is an area called New Chicago Marsh, shown on the existing land uses map (Figure 7) as “marshlands”. Although outside the USA, these marshes serve the urban development by acting as an overflow receptacle for flooding and runoff. The existing USA boundary includes a short “peninsula” intruding into the marsh; this is the site of a former wastewater treatment plant, much of which has also

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<sup>2</sup>“Buffer lands” is the designation applied to land owned by the WPCP which is not currently occupied or planned for sewage treatment facilities.





EXISTING LAND USES

FIGURE 7

TABLE 2: Land use



reverted to wetlands. North of the USA at this point are some existing industrial uses, primarily outdoor storage, on filled lands.

### ***Agricultural Land***

As indicated in the previous discussion, farming is taking place on lands owned by the WPCP and designated as “buffer lands” on Figure 7. Agriculture is also the primary land use on approximately 145 acres of privately owned land located in the southeast corner of the *Alviso Master Plan Area*, adjacent to SR 237 and the Coyote Creek. The Soil Conservation Service has designated approximately 490 acres of land in the area as prime farmland and 72 acres as farmlands of statewide importance (see Figure 8). Much of the designated “prime” farmland is owned by the WPCP.

### ***Adjacent Lands***

The Alviso Planning Area constitutes the most northerly segment of the City of San Jose’s Sphere of Influence. North of the *Master Plan Area* is San Francisco Bay. To the west is the City of Sunnyvale, including lands designated as “Public Park and Open Space”, and occupied by wetlands and park. East of Coyote Creek is the City of Milpitas. The property immediately adjacent to Coyote Creek is zoned and designated on Milpitas’ General Plan for mixed uses, including commercial, industrial/office/R&D, residential and recreation/open space. A mixed use development project was recently approved by the City of Milpitas for the property.

The southerly boundary of the *Master Plan Area* is SR 237. South of the freeway between North First Street and the Guadalupe River is land designated by the City of San Jose General Plan for Medium Density Residential (8 du/ac) and developed with a mobile home park. South of SR 237 between North First Street and Coyote Creek, the property is designated by the San Jose General Plan for Industrial Park development. The land between North First and Zanker Road is vacant<sup>3</sup>; the land between Zanker Road and Coyote Creek contains the Valley Transportation Authority’s Cerone Maintenance Facility, a bus maintenance yard.

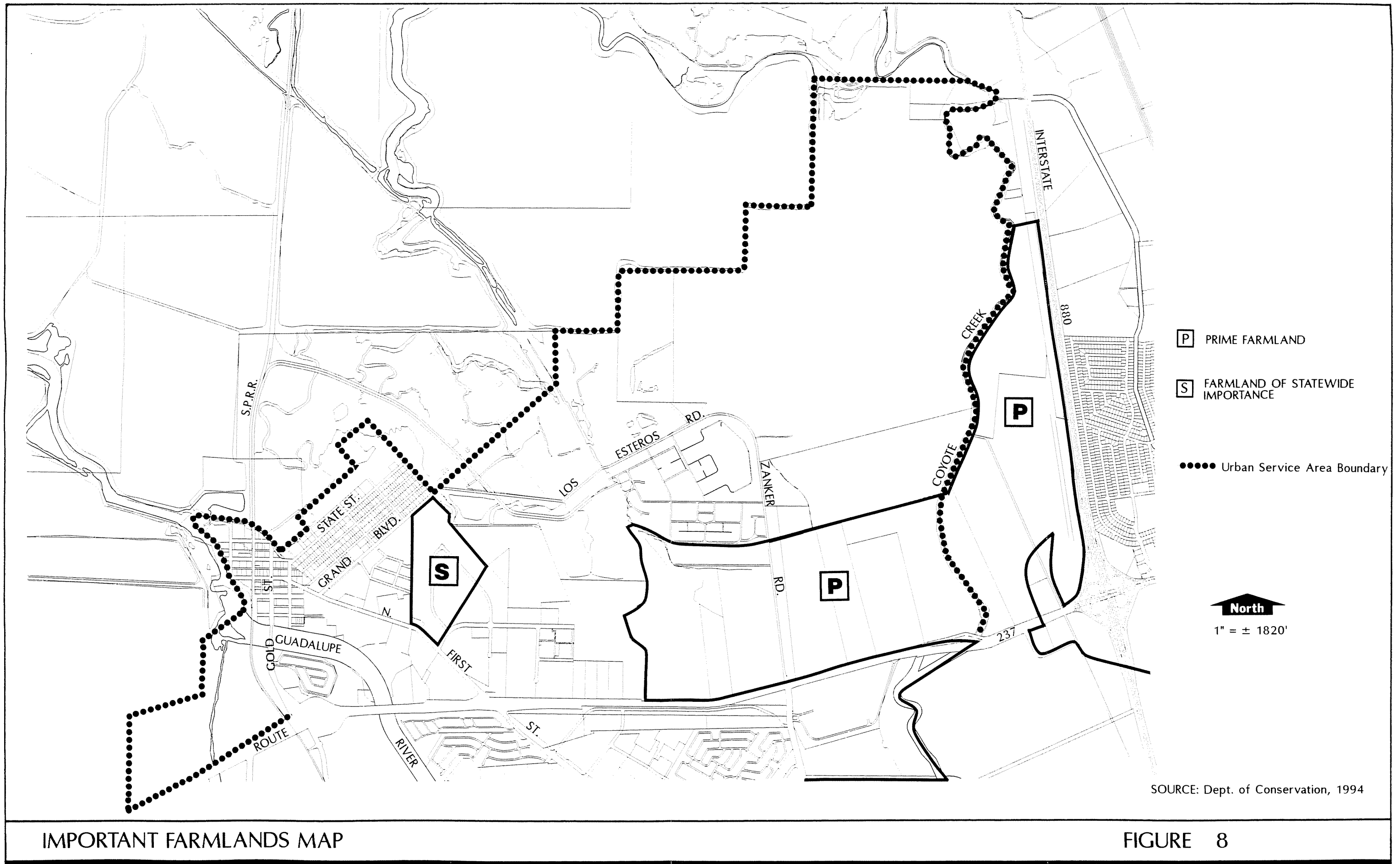
### **Constraints**

Physical conditions within or near the *Alviso Master Plan Area* which might affect the suitability of property in the area for particular land uses include:

- the proximity of the SF Bay National Wildlife Refuge
- the presence of high voltage electrical lines
- noise from airplanes, a railroad line, and the nearby freeway
- the presence of hazardous materials associated with existing and past land uses
- potential for flooding
- soil conditions, including closed landfills and undocumented fill as well as natural soils

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<sup>3</sup>Although currently vacant, the property between North First Street and Zanker Road has been approved by the City of San Jose for development with office/R&D uses.



IMPORTANT FARMLANDS MAP

FIGURE 8



- the proximity of existing and planned industrial and residential uses to each other
- odors from the WPCP and landfills.

The potential for impacts to wildlife and habitats of the Refuge is discussed in Section II.D., Vegetation and Wildlife. The implications of the high voltage electrical lines, hazardous materials, and other possible health and safety issues is discussed in Section II.E., Public Health and Safety. Noise is addressed in Section II.I., and flooding is discussed in detail in Section II.B., Drainage and Flooding. Section II.C. addresses geology, soils and seismicity, and Section II.J. is Air Quality and Odor.

## 2. Land Use Impacts

For the purposes of this EIR, a land use impact is considered to be significant if it would do any of the following:

- induce substantial growth or concentration of population; or
- displace a large number of people; or
- disrupt or divide an established community; or
- conflict with adopted environmental plans and goals of the community; or
- breach established standards relating to solid waste or litter control; or
- conflict with recreational, educational, religious, or scientific activities; or
- cause a disruption or disturbance of residential land uses; or
- convert prime agricultural land to non-agricultural use, or impair the agricultural productivity of prime agricultural land.

### **Population and Housing**

Adoption of the *Alviso Master Plan* and the creation of the Alviso Planned Community General Plan designation could ultimately allow one more dwelling unit than is currently allowed by the existing General Plan designations. As illustrated by Table 3, the residential densities allowed by the proposed *Master Plan* are not significantly different from the existing General Plan.

The most significant changes proposed by the proposed *Master Plan* are (1) changed densities in the existing residential neighborhood bounded by Grand Avenue, Spreckles Avenue, State Street, and Taylor/North First, (2) the introduction of a Mixed Use category west of Taylor/North First, which assumes some residential development, and (3) the removal of the residential designation from land on the north side of Wilson Way, north of the park and school. As shown on Figure 4, the specific changes in density for land easterly of Taylor/North First represented by the Task Force alternative include:

- (a) increasing the density from Medium Density (8 du/ac) to Medium High Density (8-16 du/ac) for the mostly developed residential area;
- (b) increasing the density from Medium Density (8 du/ac) to Medium High Density (8-12 du/ac) for vacant land on the northeast corner of Grand Avenue and North First Street;

- (c) decreasing the density on vacant land at the southeast corner of Grand Avenue and North First Street from Medium High Density (8-16 du/ac) to Medium Density (8-12 du/ac);
- (d) replacing the residential designation on vacant land southeasterly of the corner of Grand Avenue and Wilson Way with an industrial park designation.

<b>TABLE 3</b> <b>Residential Development Potential By Density</b>		
<b>General Plan Designation</b>	<b># Units Allowed by Existing General Plan</b>	<b># Units Allowed by <i>Alviso Master Plan</i></b>
Mixed Use	0	48
Medium Density Residential (8 du/ac)	599	0
Medium Density Residential (8-12 du/ac)	0	114
Medium High Density Residential (8-16 du/ac)	174	612
<b>TOTALS</b>	<b>773</b>	<b>774</b>

For the older part of the town, land previously designated *General Commercial*, *Public/Quasi-Public*, *Combined Industrial/Commercial* and *Industrial Park* (generally the neighborhood west of Liberty Street) would be redesignated for *Mixed Use*, which would allow some residential development in combination with commercial and public/quasi-public facilities.

These modifications to the residential land use designations would result in relatively minor changes in the existing pattern of development. Medium Density (8 du/ac) is generally considered a single family detached residential density, typified by 5-6,000 square foot lots. The proposed *Medium Density (8-12 du/ac)* category is only a slightly higher density and, as discussed in the Project Description (Section II.C. of this EIR) is intended to be developed as single family housing or small projects of duplexes or townhouses that give the visual appearance of single family residential development. *Medium High Density (8-16 du/ac)* is typically considered townhouse or duplex density, although it can be developed at the lower end of the density range with small lot single family houses.

The proposed *Alviso Master Plan* could result in the addition of approximately 211 more dwelling units than was identified in the 1990 census, but virtually no increase in the number of dwelling units from what is allowed by the existing General Plan. This would not be considered a significant increase in population over either the existing General Plan designations, or the existing condition. The *Master Plan* proposes residential development at locations which reinforce existing land use patterns, and does not propose to eliminate any

existing residential development. Implementation of the *Master Plan* would not, therefore, result in either divisions in the established neighborhood or in future displacement of people.

- **Implementation of the proposed *Master Plan* would not cause divisions in an established neighborhood nor will it result in displacement of significant numbers of people. (Less Than Significant Impact)**

### **Land Use Conflicts**

Land use conflicts associated with new development, including future implementation of this *Master Plan*, can arise from two basic causes: 1 ) a new development or land use may cause impacts to persons or the physical environment in the vicinity of the project site or elsewhere; or 2) conditions on or near the project site may have impacts on the persons or development introduced onto the site by the new project. Both of these circumstances are aspects of land use compatibility. Potential incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritations and nuisance to potentially significant effects on human health and safety.

The discussion below distinguishes between potential impacts *from* the project (implementation of the *Master Plan*) *upon* persons and the physical environment, and potential impacts *from* the project's surroundings *upon* the project itself.

#### ***Impacts from the Project***

Implementation of the proposed *Master Plan* may result in new development being placed in close proximity to existing development or land uses, and it may also result in new projects being built adjacent to each other. Under both circumstances the potential exists for creating land use conflicts. The most likely sources for such conflicts include the following:

- Industrial development adjacent to residential land uses
- Industrial development adjacent to public park and/or open space
- Industrial development adjacent to the existing public school
- Industrial development adjacent to agricultural lands
- Industrial development adjacent to wildlife habitat
- Commercial development adjacent to residential land uses
- Commercial development adjacent to public park and/or open space
- Commercial development adjacent to wildlife habitat
- Residential or other sensitive land uses adjacent to the WPCP
- Residential development adjacent to wildlife habitat
- Residential development adjacent to agricultural lands.

Potential sources of incompatibility could include visual intrusion into private open spaces, noise, dust, litter, safety impacts associated with access and traffic, nuisance problems such as trespassing or vandalism, odors, potential impacts from hazardous materials on vulnerable populations, pollution or contamination of wildlife habitat, destruction of wildlife, and



possible health or nuisance impacts from agricultural activities or chemicals. Some of these impacts are addressed in other sections of this EIR, as indicated in the list below:

<b>Impact</b>	<b>EIR Section</b>
Noise	II.I., Noise
Dust	II.J., Air Quality
Odors	II.J., Air Quality
Hazardous Materials	II.E., Public Health and Safety
Pollution of habitat	II.D., Vegetation and Wildlife
Destruction of wildlife	II.D., Vegetation and Wildlife

All other potential land use impacts are discussed in this section of the EIR.

#### *Visual Intrusion*

The potential for visual intrusion would be created if a new multi-story development, particularly non-residential development, were to be adjacent to back yards, courtyards, or patios of a residential development. In such a circumstance, where windows would overlook what is considered to be private open spaces, a land use compatibility impact would be created. Intrusion into the privacy of residents could be created by placing a new industrial building at such a location that its windows overlook existing yards, or by designing and building a new residential development such that it would place private open spaces within the line of sight of existing non-residential buildings.

Creation of such conditions, whether by new industrial or new residential development, would cause on-going disruption of residential activities, and would be considered a significant land use impact. The potential for such impacts would be created in the *Mixed Use* area, or adjacent to the existing mobile home park on Gold Street. Other possible locations would be where only a narrow street right-of-way separates industrial and residential areas (e.g., Wilson Way or Grand Avenue).

- **Development of a multi-story non-residential development such that it would result in windows overlooking private open space, or development of residential private open space uses within the direct line of sight of non-residential windows would create a significant disruption of residential activities. (Significant Impact)**

#### *Safety and Access*

Placing residential and non-residential land uses in proximity to each other could also create a potential for conflict between non-residential traffic, especially truck traffic, and pedestrians, especially children. In addition, access to residences may be restricted by heavy traffic, trucks, and/or parking for non-residential uses.

The proposed *Master Plan* does not change the location of the existing public school or public park, but it does increase the amount of industrial development that may be using streets adjacent to the school and park. Implementation of the *Master Plan* could result in some additional industrial park development along the south side of Grand Avenue and the north side of Wilson Way, across from existing and planned residential uses. The designation of Mixed Use for the westerly part of the town area could also result in individual residences being situated such that their driveways or pedestrian access is in conflict with existing or proposed industrial or commercial uses.

Overall, the juxtaposition of existing and planned residential properties in relation to existing and planned non-residential land uses, and the future development of various residential and non-residential properties, could result in access and safety problems that would adversely effect the residential land uses, or would create a disruption for the ongoing use of the school and/or neighborhood park.

- **Development of future residential or non-residential land uses could create conflicts with access to residential, educational, and/or recreational properties. (Significant Impact)**

#### *Litter, Trespassing and Vandalism*

The placement of residential and non-residential uses in close proximity to each other sometimes creates a situation where “spill-over” of activities associated with one land use could create an unacceptable situation for another. Outdoor storage or other outdoor industrial activities, trucks, heavy equipment, and other industrial or commercial activities can generate localized concentrations of outdoor litter and debris. Non-residential facilities that are closed on evenings and weekends can attract the attention of persons curious about the closed facilities, which may result in incidents of vandalism. There is sometimes a perception that placing such uses in close proximity to each other increases the severity or likelihood of these spill-over impacts.

Existing ordinances and regulations of the City of San Jose, including the Zoning Ordinance, prohibit the generation of litter. Other laws and codes prohibit trespassing and vandalism, and provide for criminal penalties. In addition, placing developments that are closed part of the time near land uses that are occupied and busy during the evenings and weekends can also result in better surveillance of the closed facilities, potentially reducing the opportunities for vandalism.

While there may be some potential for litter and trespassing to create conflicts between residential and non-residential uses, it is unlikely that this is a potentially significant impact.

Litter from urban uses, including residential developments, can also create impacts on non-urban uses, such as parks, trails, creeks, and the nearby Refuge. Increasing urban activity in close proximity to natural habitat areas increases the likelihood of dumping, abandonment of domestic animals, and similar encroachments into common open spaces that are not closely supervised.

The *Alviso Master Plan* does not change the overall relationship of planned urbanization to the designated Bay Trail in this area, although it does change and intensify some of the designated land uses along its route. The *Master Plan* also creates, through the designation of properties for “river oriented uses”, and even a designation of “River Commercial”, an increasing awareness and potential for development that is closely linked to the Guadalupe River. While such an orientation could encourage a greater respect for the river and would probably include closer surveillance of it, encouraging development adjacent to the river also is likely to increase the potential for dumping trash into the river, and could increase other forms of pollution (see Sections II.B., Drainage and Flooding and II.D., Vegetation and Wildlife).

The *Master Plan* also includes a proposal to expand industrial areas north of State Street farther into New Chicago Marsh, ultimately creating a filled peninsula of industrial uses within the marsh. The potential for windblown litter, dumping, and intrusion by persons and animals into the marsh is significantly increased by such a relationship.

- **The proposed *Master Plan* will create a significantly increased potential for litter, trespassing, vandalism and conflicts with established recreational uses. (Significant Impact)**

#### *Conflicts With Agricultural Activities*

Farming, including the cultivation of row and field crops that is occurring within the *Alviso Master Plan Area*, usually involves the use of heavy equipment and the generation of dust and use of chemicals, some of which are sprayed. Greenhouse cultivation, in particular, can involve significant quantities of chemicals. Some agricultural activities result in the generation of odors and insects, including animal husbandry and use of fertilizers. Placement of urban development near continuing agricultural uses can create the potential for conflicts between the occupants of the new urban development and ongoing agriculture. While people moving into a new development may find the existing farm fields and open space visually attractive, they sometimes find the noise (especially early in the morning), odors, dust, insects, and air-borne chemicals less acceptable.

The proposed *Master Plan* does not propose new residential areas near existing agricultural uses. Some of the proposed industrial park areas will be adjacent to ongoing agricultural activities. To the extent that such uses include outdoor activities, including outdoor eating or recreational areas for employees, the potential will exist for impacts from farming, particularly dust and chemical spraying, to affect occupants of the new industrial parks. Airborne dust and chemicals would have potential health impacts for people exposed to significant concentrations over time. The proposed industrial park areas are west of the agricultural lands, and will not be downwind of the source of dust and chemicals most of the time.<sup>4</sup> It is anticipated that potential effects from agriculture upon the future industrial park developments would be of a nuisance level and would not constitute a health hazard.

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<sup>4</sup>See the wind rose for this area in Section II. Air Quality and Odors.



- **Impacts from ongoing agriculture upon proposed urban development would not constitute a significant health or land use compatibility impact. (Less Than Significant Impact)**

### ***Impacts to the Project***

The existence of substantial physical barriers, man-made and natural, which bracket the *Alviso Master Plan Area* minimize the potential for exterior conditions to impact development within the *Master Plan Area*. Recently approved residential developments east of Coyote Creek may result in sensitive receptors placed in close proximity to the WPCP, but the WPCP is an existing use, reflected in the City's existing General Plan. The *Master Plan* does not propose any changes or expansions to the Plant or its operations, and will not, therefore, increase or change any potential impacts to the new developments in Milpitas.

- **The implementation of the *Alviso Master Plan* will not result in the development of land uses subject to significant constraints from conditions outside the study area. (Less Than Significant Impact)**

### ***Impacts of the USA Expansion***

Some of the land proposed for the USA expansion has already been filled and is being used for industrial activities. There are no records of permits for the fill or for development on these properties. Expansion of the USA would allow for issuance of grading and other land use permits to fill,<sup>5</sup> pave and intensify the land uses, introduce urban services such as sewer and water lines, street lights, and streets, and establish permanent, long-term developments. The existing General Plan includes approximately 500-600 feet of the peninsula in the USA already.

The proposed expansion of the USA boundary farther into New Chicago Marsh would result in a developed peninsula of filled land covered with light industrial buildings and associated land uses such as parking lots, landscaping, outdoor lighting, outdoor storage, fences, etc. The development would generate litter, dust, noise, traffic, air pollution, contaminated runoff, light, and other human activities in direct proximity to the marsh and the wildlife habitat it contains. Some of the litter, dust, contaminated runoff, and air pollution are more likely to enter the marsh than if the finger of development were not to occur, causing degradation of the habitat value.

The City's adopted General Plan has as a goal to "Preserve and restore natural characteristics of the Bay and adjacent lands...." In support of that goal, General Plan policies include:

"No development which creates adverse impacts on the National Wildlife Refuge in South San Francisco Bay or results in a net loss of baylands habitat value should be permitted."

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<sup>5</sup>Any properties filled without permits would be required to verify the quality of the fill in place, including removing and/or recompacting subgrades prior to paving and building construction.

The proposed USA expansion would permit industrial development within approximately 300 feet of the Refuge, and bordered on three sides by baylands.

In addition to impacts on the marsh, the USA expansion will result in increased truck traffic along the residential streets that provide the only access to the area, increasing safety and access problems in the residential neighborhood.

- **Expansion of the USA boundary would have significant effects on the sensitive Baylands habitats, whose protection is an environmental goal identified in the City of San Jose's General Plan, and will disturb the existing residential neighborhood. The proposed USA expansion would create significant adverse land use conflicts. (Significant Impact)**

### 3. Land Use Mitigation Measures

Many of the potential land use impacts identified in this section will be reduced or avoided through implementation of General Plan policies. Other Mitigation Measures will include adopted Design Guidelines and established policies, as identified below.

#### **General Plan Policies**

The following General Plan policies would provide mitigation for future potential land use impacts.

##### ***Visual Intrusion***

- *Urban Conservation Policy #1* - In the development review process and in designing service and capital facility programs, the City should strive to create an environment in which the highest value is placed on people.
- *Urban Conservation Policy #2* - The City should encourage new development which enhances the desirable qualities of the community and existing neighborhoods.
- *Industrial Land Use Policy #1* - Industrial development should incorporate measures to minimize negative impacts on nearby land uses.
- *Industrial Land Use Policy #10* - Interface problems between existing residential and new industrial areas should be resolved through the site design and discretionary permit process.
- *Urban Design Policy #1* - The City should continue to apply strong architectural and site design controls on all types of development for the protection and development of neighborhood character and for the proper transition between areas with different types of land uses.

## ***Safety and Access***

- *Residential Land Use Policy #2* - Residential neighborhoods should be protected from the encroachment of incompatible activities or land uses which may have a negative impact on the residential living environment. In particular, non-residential uses which generate significant amounts of traffic should be located only where they can take primary access from an arterial street.
- *Residential Land Use Policy #9* - When changes in residential densities are proposed, the City should consider such factors as neighborhood character and identity, compatibility of land uses and impacts on livability, impacts on services and facilities, including schools, to the extent permitted by law, accessibility to transit facilities, and impacts on traffic levels on both neighborhood streets and major thoroughfares.
- *Commercial Land Use Policy #5* - Commercial development should be allowed within established residential neighborhoods only when such development is compatible with the residential development and is primarily neighborhood serving.
- *Commercial Land Use Policy #15* - Existing commercial development within residential neighborhoods may expand when such development is small scale and is compatible with the adjacent residential neighborhood.
- *Transportation, Parking, Policy #25* - Adequate off-street parking should be required in conjunction with all future developments. The adequacy and appropriateness of parking requirements in the Zoning Code should be periodically re-evaluated.
- *Transportation (Truck Facilities) Policy #23* - Industrial and commercial development should be planned so that truck access through residential areas is avoided. Truck travel on neighborhood streets should be minimized.
- *Parks and Recreation Policy #13* - Bikeways, hiking trails, equestrian trails, rest areas and picnicking accommodations should be provided, wherever feasible, within parks and trails corridors designated on the Scenic Routes and Trails Diagram, to access the hillsides, ridgelines, baylands, significant waterways, and other scenic areas.

## **Other Programmed Mitigation Measures**

Mitigation would also be provided through the following ordinances and adopted policies:

- ❖ The City of San Jose's Grading Ordinance includes provision for dust control measures to avoid or reduce potential impacts from grading.
- ❖ The City of San Jose's Residential Design Guidelines identify acceptable standards for protecting new residential developments from noncompatible uses in the area, including setbacks, use of landscaping, and other design controls.



- ❖ The City of San Jose's Industrial Design Guidelines identify acceptable standards for reducing or avoiding potential conflicts between new industrial developments and adjacent or nearby residential land uses, including restrictions on building height, window orientation, setbacks, landscaping, walls and other buffering.

**Conclusion:** The above described General Plan policies and other programmed mitigation is sufficient to reduce potentially significant disruption of residential activities and conflicts with access to residential, educational, and/or recreational properties. **(Less Than Significant Impact With Mitigation)**

The expansion of the Urban Service Area farther into New Chicago Marsh and closer to the existing National Wildlife Refuge would have potentially significant impacts on the marsh and the Refuge, and would introduce additional truck and other industrial traffic onto the nearby residential streets, creating further access and safety problems. **(Significant Unavoidable Impact)**

## B. DRAINAGE, FLOODING AND WATER QUALITY

The following discussion is based upon a flooding and drainage report prepared by *Schaaf and Wheeler, Consulting Civil Engineers*, and on information provided by the City of San Jose Department of Public Works. The flooding and drainage report is contained in Appendix A.

### 1. Existing Setting

The *Master Plan Area* is located north of SR 237, between Coyote Creek and Calabazas Creek in northern Santa Clara County, in the City of San Jose. The entire *Master Plan Area* is designated as being within the 100-year base floodplain. The majority of the area is within the tidal floodplain of San Francisco Bay. The remainder of the area is affected by potential overflows from Coyote Creek or the Guadalupe River.

Much of the *Master Plan Area* is located within historic tidal marshes, which accounts for the relatively level topography. Extensive groundwater pumping for agricultural and urban uses has resulted in area-wide subsidence, meaning that the surface of the ground has sunk. Between 1934 and 1967, subsidence in Alviso may have been as much as six feet. Existing ground elevations within the focused Study Area range between -1 and 15 feet NGVD<sup>6</sup>. Figure 9 illustrates that most of the built area is below elevation 5 NGVD.

New Chicago Marsh is located east and north of the town of Alviso. Subsidence has resulted in the marsh being at an average of -3 NGVD. Its importance as habitat to an endangered species is described in Section II. D., Vegetation and Wildlife, along with the current program to encourage its function as salt marsh habitat. The discussion below addresses the role of New Chicago Marsh in the flooding and drainage patterns of the area.

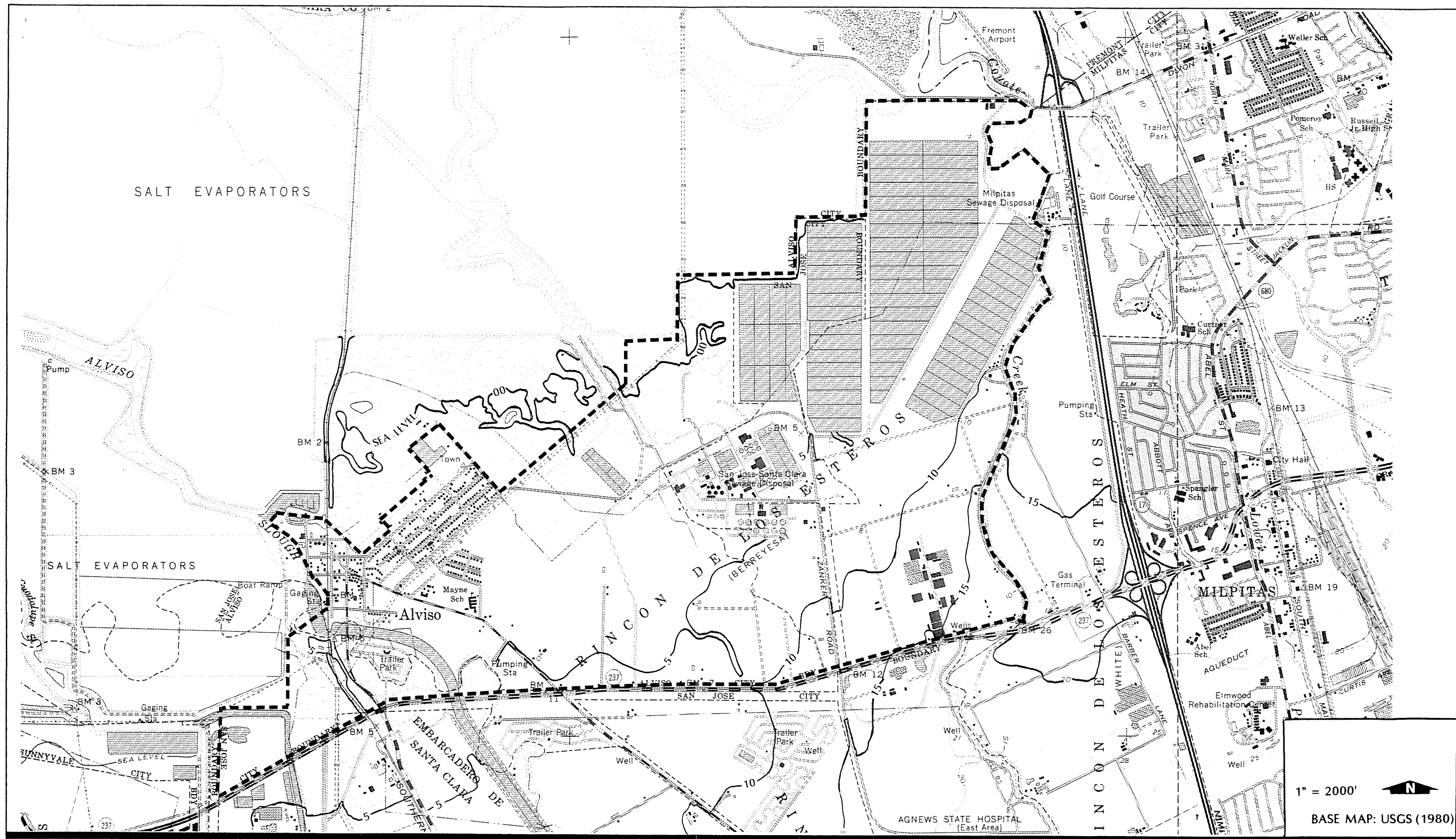
### Flooding

Flood protection is usually measured in terms of the "100 year flood" caused by a storm event of such magnitude that it only occurs on an average of once in 100 years. Federal flood protection standards are expressed in terms of the ability of specific improvements to protect from the 100 year flood.

The *Alviso Master Plan Area* has historically been affected by freshwater flooding from two separate watercourses: Coyote Creek and the Guadalupe River. The Alviso area is also subject to tidal (salt water) flooding from San Francisco Bay. Figure 10 shows that portion of the *Master Plan Area* subject to flooding from the Guadalupe River and Figure 11 illustrates potential tidal flooding. All of the area north of SR 237 is presently shown on the Federal Emergency Management Agency (FEMA) maps as being subject to flooding by Coyote Creek. The maps are being revised to reflect the recent improvements done along Coyote Creek, as discussed below.

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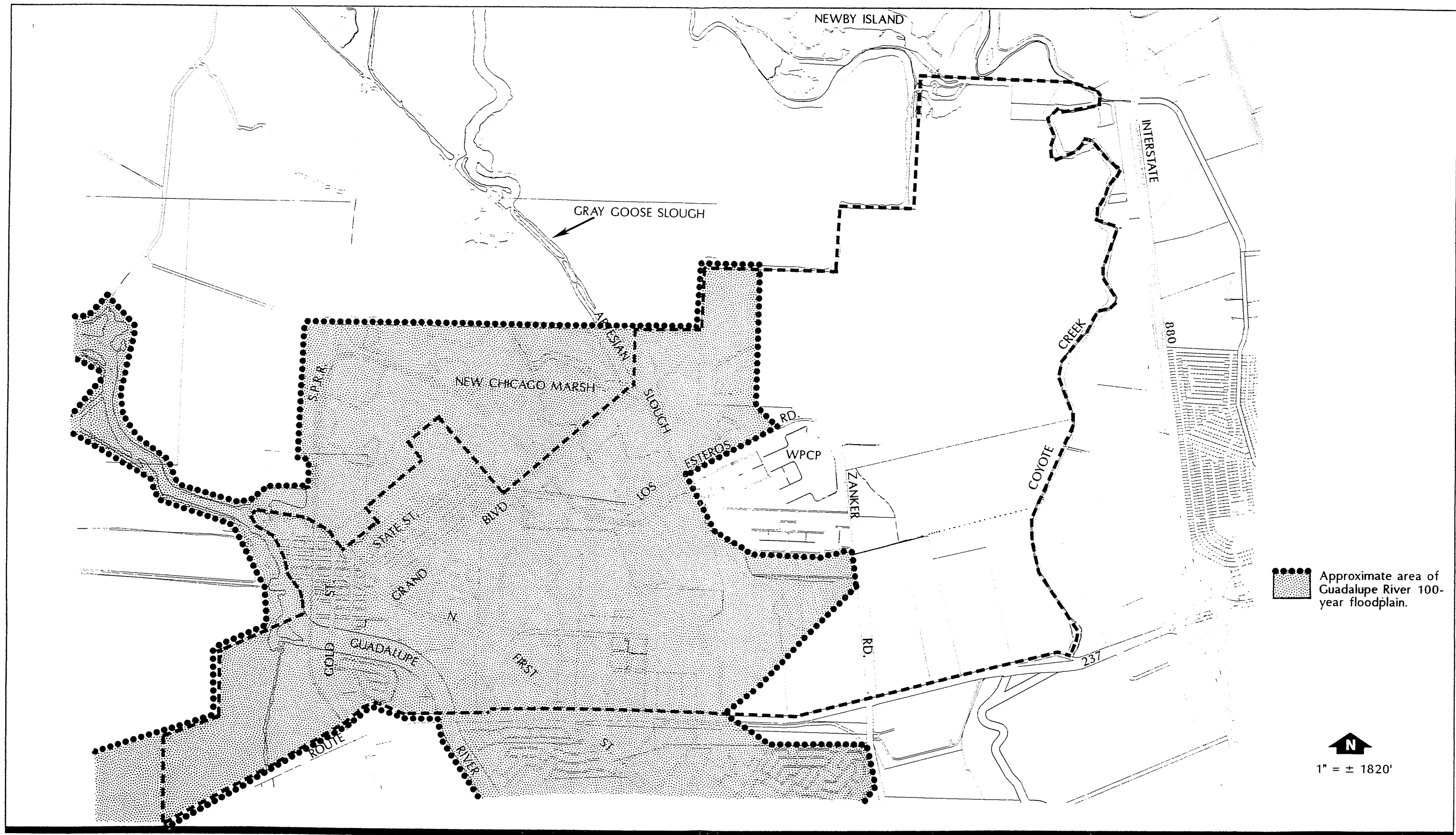
<sup>6</sup>The National Geodetic Vertical Datum (NGVD) forms the basis for surveys in which the curvature of the earth is considered. The level of the ground surface or floodwaters listed in the text are elevations above or below mean sea level, which is calculated based on the NGVD. The notation ("NGVD") means about the same thing as the traditional reference to "sea level".



GROUND SURFACE ELEVATIONS WITHIN THE PROJECT AREA

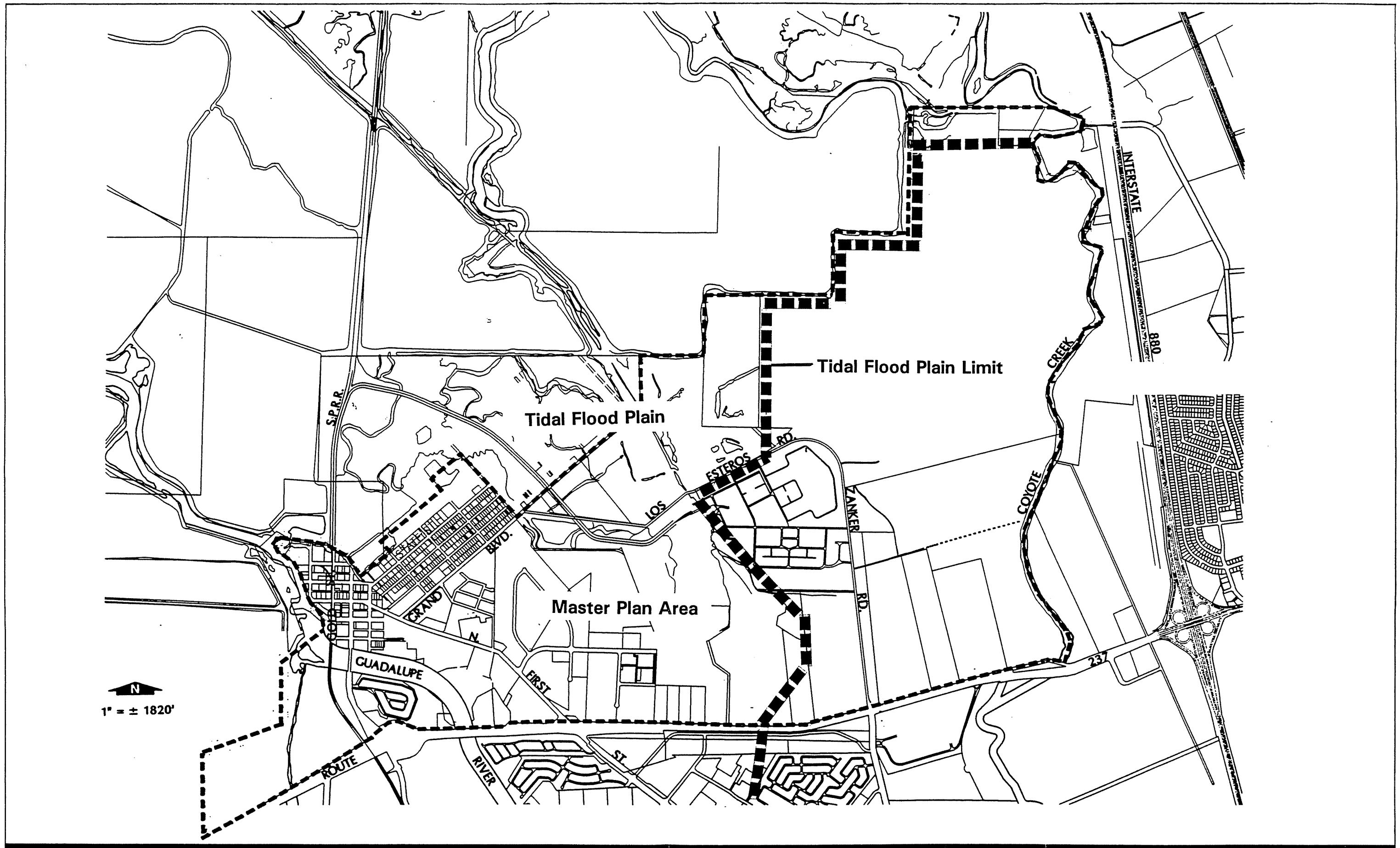
FIGURE 9





GUADALUPE RIVER FLOODPLAIN

FIGURE 10



TIDAL FLOODPLAIN

FIGURE 11

As a result of these cumulative circumstances, the entire *Master Plan Area* is presently designated by FEMA as being within the 100-year base floodplain.

### ***Coyote Creek***

Coyote Creek is an alluvial stream which drains from mountains in the Diablo Range south of the project and flows approximately north toward the San Francisco Bay. The major tributaries of Coyote Creek are Fisher Creek, Silver Creek, Upper Penitencia Creek, and Lower Penitencia Creek. The stream channel has been improved<sup>7</sup> in limited reaches through the urbanized areas of the valley floor. The channel has been improved by the Santa Clara Valley Water District and the Army Corps of Engineers from Montague Expressway north to the San Francisco Bay.

The Coyote Creek flood control project was completed in 1997 to improve the channel from Montague Expressway to the Bay. The improved channel has a design capacity of 15,000 cubic feet per second (cfs) to contain the 100-year flood. Flooding may still occur in events greater than the 100-year design flood. Prior to completion of the Coyote Creek project, the channel capacity was approximately 5,000 cfs south of SR 237, and 2,000 cfs north of SR 237. Coyote Creek flows in excess of the channel capacity would overflow from the channel toward Alviso.

Overflows from Coyote Creek occurred in 1982 and 1983, during flow events much less than the 100-year storm. In both events, significant flooding occurred in the Alviso area. In 1983, the maximum flood elevation reached elevation six feet, and the maximum flood depths in Alviso were over eight feet. The floodplain area was generally bounded by the Guadalupe River levees to the west, the salt pond levees north of the New Chicago Marsh on the north, the WPCP and ponds to the northeast, and Coyote Creek to the east. Areas with higher existing ground elevations near SR 237 and Zanker Road were generally only affected by shallow flooding during the overflow from Coyote Creek. Lower areas were subject to flooding for a longer period while flood water was pumped out. The lowest areas were flooded for over two weeks.

During the 1983 flood event, the City of San Jose installed tide gates from New Chicago Marsh to Artesian Slough near the U.S. Fish & Wildlife Education Center. The City also constructed a ring levee around the developed area in Alviso to improve flood protection in the area. The ring levee was removed in 1997 after completion of the Coyote Creek channel improvements. The City also plans to remove the tidal gates from New Chicago Marsh to Artesian Slough.

### ***Guadalupe River***

The Guadalupe River is an alluvial stream which drains from the mountains of the Coast Range south of the project and flows approximately north toward San Francisco Bay. The major tributaries of the Guadalupe River are Los Gatos Creek, Guadalupe Creek, Alamos Creek, and Canoas Creek. The river channel has been improved in certain reaches through

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<sup>7</sup>"Improved" is a term used to describe engineered modifications made to a waterway, usually for the purpose of providing flood protection.



the urbanized areas of the valley floor. The channel from Interstate 880 north to the Bay has been improved to 100-year design standards by the Santa Clara Valley Water District. Spills from the channel south of Interstate 880 flow north along the east side of the channel through the North San Jose area to SR 237.

The estimated 100-year flow rate for the Guadalupe River spill at SR 237 is approximately 2,500 cubic feet per second. The flood water would cross SR 237 near North First Street and continue north through the *Alviso Master Plan Area*. The flood water would pond in the New Chicago Marsh. An overflow from the Guadalupe River may flood portions of the existing development in Alviso both by sheetflow through the area and due to ponding in New Chicago Marsh. The level of protection available would depend on the water level in New Chicago Marsh prior to the flood event and the size of the Guadalupe River overflow.

The Corps of Engineers, in conjunction with the Santa Clara Valley Water District, has approved a flood control project for the Guadalupe River south of I-880 to I-280. The project would provide 100-year flood protection between the Guadalupe River and Coyote Creek due to spills from the Guadalupe River. The flood control facilities are currently in construction. The first phase from Highway 880 to Taylor Street has been completed. The remainder of the project is scheduled to be completed in 1999 or 2000. Completion of these improvements will eventually remove all of Alviso from the Guadalupe flood plain.

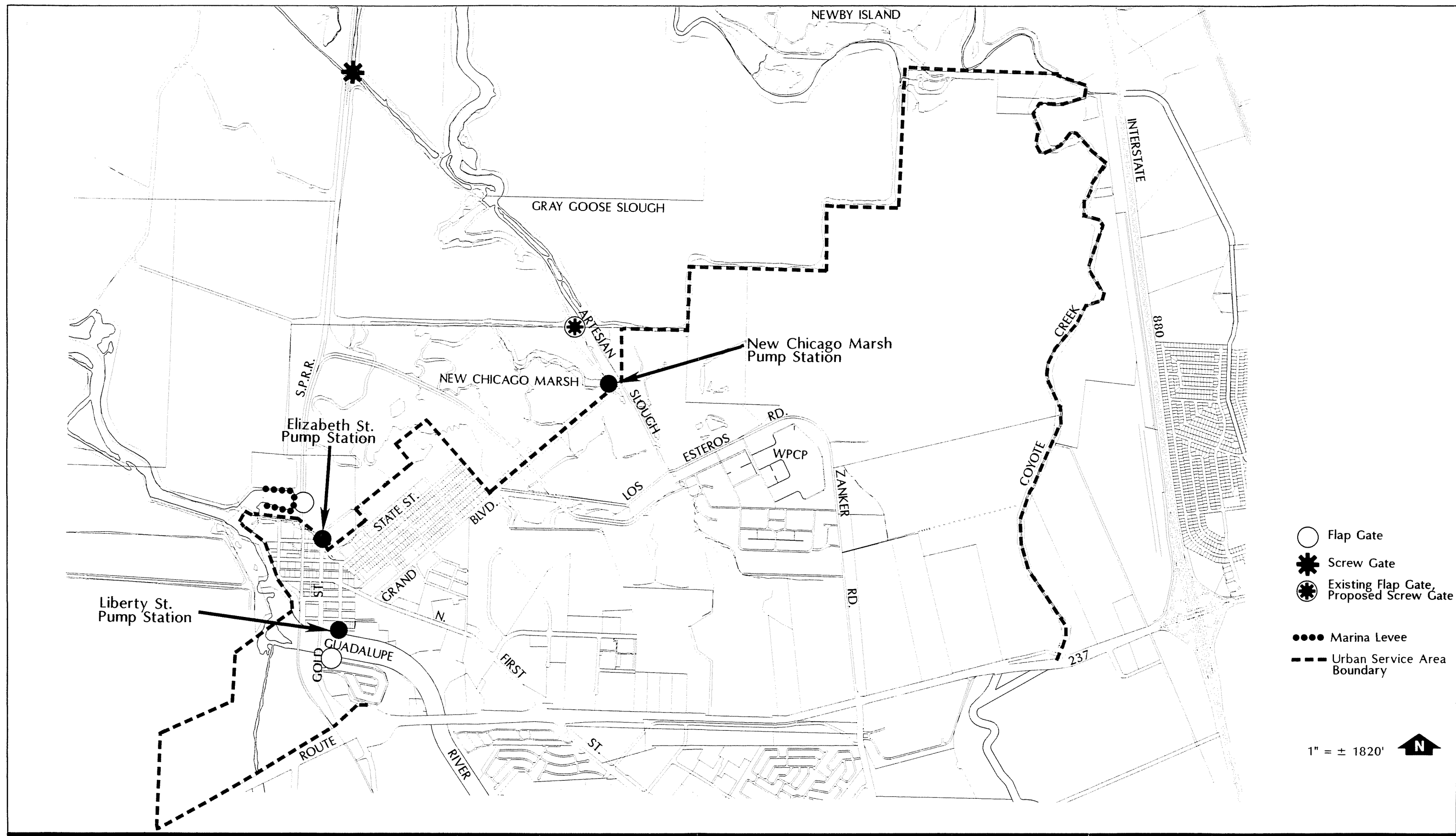
### ***New Chicago Marsh***

Tide gates from New Chicago Marsh to Artesian Slough were installed as an emergency measure during the 1983 flood. Two of the gates were removed after 1983. The remaining gates (see Figure 12) may not operate due to siltation in the slough. Currently, the City plans to remove the gates. There are also tide gates from the marsh to the Guadalupe River at the Alviso Marina. These gates are inoperable due to siltation in the marina and river channel. There are no current plans to replace or improve these gates.

The U.S. Fish & Wildlife Service has a marsh management project for the New Chicago Marsh to return the marsh to a saltwater habitat area (also see discussion in Section II.D., Vegetation and Wildlife). A gated inlet from Coyote Creek has been constructed to allow salt water into the marsh. A new pump station has also been installed to maintain circulation and pump excess water from the marsh to Artesian Slough (see Figure 12). The pump station has capacity to remove approximately 3 acre feet in 24 hours. Over the entire 340-acre marsh, this would represent less than 0.01 feet of water per day. This may be adequate capacity on an average basis over a month or an entire winter season. However, the marsh may be subject to significant rainfall and runoff inflows in a few days, which may then require months to pump out. It is not, therefore, always available to contain flood water overflows or to extend the capacity of the local drainage system.

### ***Tidal Flooding***

Part of the *Alviso Master Plan Area* is subject to potential flooding from tidal inundation due to levee over-topping or levee failure in the salt pond areas north of New Chicago Marsh. Although the salt pond levees would provide some level of protection from tidal flooding,



DRAINAGE AND FLOOD CONTROL STRUCTURES

FIGURE 12

they do not meet 100-year flood protection design standards as defined by FEMA. In addition, localized areas near the railroad north of Alviso are below the 100-year tidal elevation and may be overtopped. The Flood Insurance Rate (FEMA) Maps are based on an estimated 100-year high tide elevation of nine feet.

The Corps of Engineers has prepared a feasibility level study for flood protection for the South Bay shoreline area, including the Alviso area. The study only considered overtopping of the existing levees, not potential levee failure during an extreme high tide. (Historically, levee failures during tidal events have been rare occurrences.) The levees were assumed to be maintained in their current condition. The study conclusion was that there would not be sufficient benefits from reduced flooding in the Alviso area to justify the cost of major levee improvements<sup>8</sup>.

Figure 11 shows the area considered subject to tidal flooding, without potential overflows from Coyote Creek or the Guadalupe River.

## **Drainage**

### ***Storm Drainage***

The *Alviso Master Plan Area* is divided into six major drainage watersheds, based on the existing drainage systems and the disposal stream for each drainage. The drainage watersheds are shown in Figure 13, and are described below.

Area A is at the western edge of the *Alviso Master Plan Area*, west of the Guadalupe River. Area A is approximately 151 acres. Area A includes segments of Calabazas Creek and San Tomas Aquino Creek, north of SR 237. A subsection of Area A is bounded by the creek levees and the fill for SR 237. Until the recent project to upgrade SR 237 to a freeway, that subsection had no drainage system, and rainfall would pond on the surface. Since the freeway project, the area has been converted to a constructed tidal marsh wetland. A portion of the Calabazas Creek levee has been opened to allow tidal flows and flood flow into the site. This subsection of Area A is shown as subject to tidal flooding to elevation nine feet on the flood insurance rate maps.

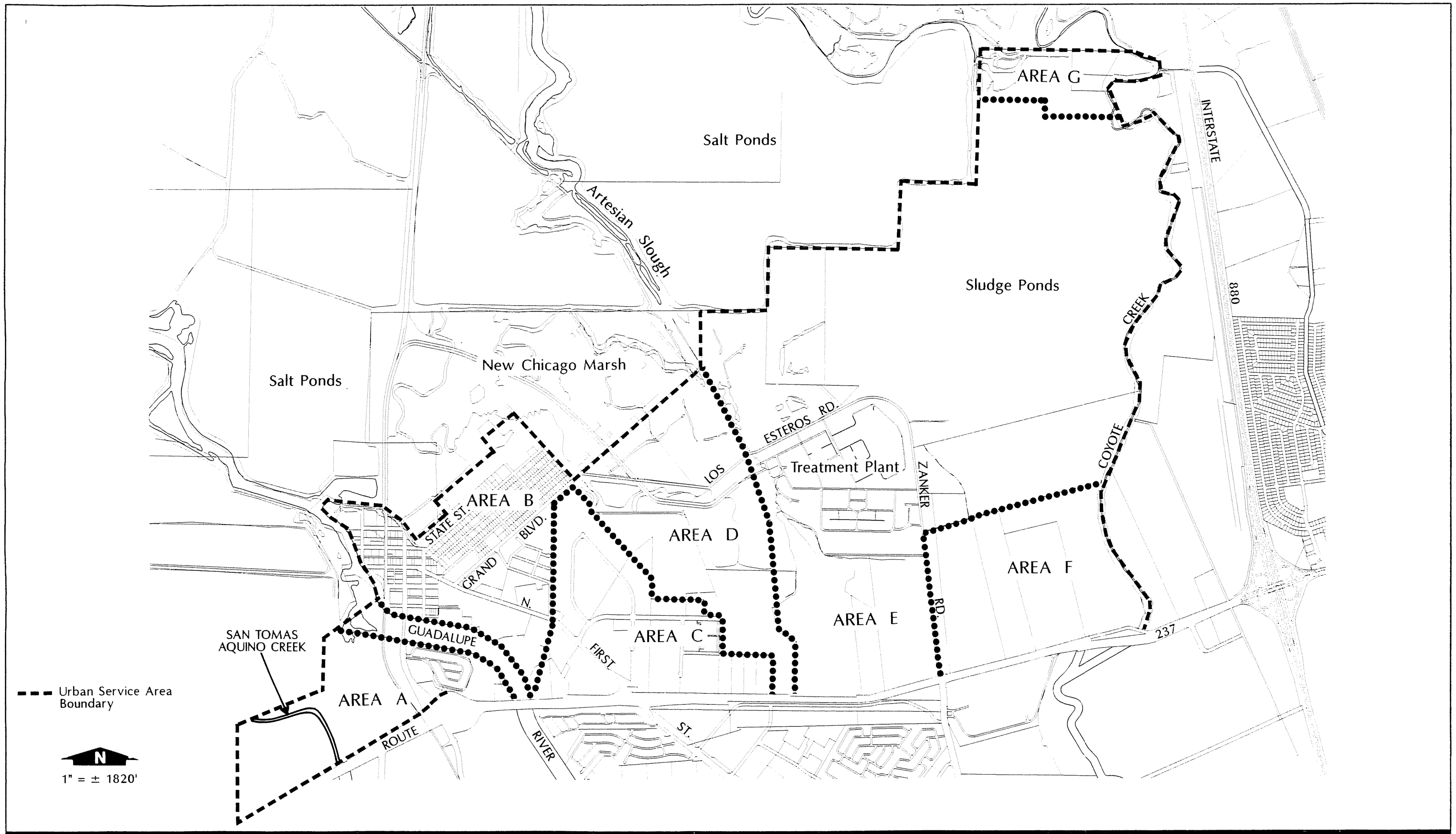
The remainder of Area A is east of San Tomas Aquino Creek, west of the Guadalupe River, north of SR 237 and drains to the Guadalupe River. This area includes a closed landfill and light industrial properties west of Gold Street, and the mobile home park east of Gold Street. The existing drainage in the area is provided by flapgated outlets to the river. The existing systems do not provide 10-year capacity<sup>9</sup> for the existing land uses in the area. There are also several places along Gold Street and SR 237 which are low and collect any runoff which

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<sup>8</sup>The levee on which the Corps study was based was a 9.8 foot high (NGVD) ring levee generally following the alignment of the temporary ring levee built by the City. Costs for wetland and other mitigation was not included in the analysis, although a minimum of 10-20 acres of wetland mitigation was assumed to be necessary.

<sup>9</sup>The term "10-year capacity" means that a stormwater collection system can handle the amount of runoff that would result from a storm that is considered statistically likely to occur once in ten years.





DRAINAGE WATERSHEDS

FIGURE 13

cannot discharge to the river. These low places within the subarea act as detention basins when the water levels are high in the Guadalupe River. Overflows from these low areas drain to the existing City of Santa Clara detention basin and pump station south of SR 237. Stormwater from the detention basin is pumped into the Guadalupe River south of SR 237.

Area B is the area north and east of the Guadalupe River and southwest of New Chicago Marsh. Area B includes the older developed area of Alviso, and is approximately 225 acres. It is served by a storm drain system with two pump stations. One station is at Elizabeth and Gold Streets. The other is at the south end of Liberty Street, near the Guadalupe River (see Figure 12). The majority of the area drains by underground storm drains to the Elizabeth Street pump station. A portion of the area near the Guadalupe River levee drains to the Liberty Street pump station by overland flow. The storm drain system did overflow to the New Chicago Marsh at the Elizabeth Street pump station prior to the construction of the ring levee. The Elizabeth Street pump station was designed for a 3-year design storm assuming a portion of the marsh would be used for detention storage.

The City of San Jose is in the process of preparing a storm drain master plan for the Alviso area. This will concentrate on the existing developed area. The plan is scheduled to be completed in 1998. The plan will consider the level of protection of the existing systems, impacts of removing the ring levee, operation of the New Chicago Marsh, and effectiveness of the pump stations. Potential improvements may include storm drain improvements, detention in the marsh, and pump station improvements. The City has completed two recent storm drain improvement projects in Alviso. A 48-inch storm drain was installed on First Street from Grand Avenue to School Street, and a 30-inch storm drain was installed on Liberty Street between Moffat Street and Taylor Street. Both projects connect to the existing storm drain system and the Elizabeth Street pump station.

Area C is the new developing area along North First Street south of School Street, including Disk Drive and Nortech Parkway. Area C is approximately 232 acres in size. This area is served by underground storm drains which flow south under SR 237 to the Oakmead pump station. The pump station and storm drains are designed for a 10-year design storm. The pump station discharges to the Guadalupe River. Portions of the storm drain system have not been completed for those properties not yet developed. Runoff in excess of the existing storm drain capacity would pond in low areas within the area, but may overflow northward to the New Chicago Marsh in larger events.

Area D is mostly south of Los Esteros Road, west of the WPCP and north of the development area along Nortech Parkway. Area D drains overland to New Chicago Marsh through a culvert under Los Esteros Road. This area is currently open space, and does not have a storm drain system. The area does include the Owens Corning Landfill property north of Los Esteros Road, and east of New Chicago Marsh. Area D is approximately 300 acres in size.

Area E includes the WPCP and its sludge ponds, and the area around the plant, to SR 237, plus the Zanker Road landfill and recycling facility. Drainage through this area is conveyed by agricultural ditches and swales to Artesian Slough, northwest of the WPCP. The connection to Artesian Slough was modified during construction of the WPCP to drain to the marsh east of Artesian Slough and north of the WPCP. There are gated culverts from the

marsh to Artesian Slough. The marsh acts as a detention storage pond for the area. The entire drainage area is approximately 1,350 acres, of which approximately 675 acres are sludge ponds with no drainage outlet.

The portion of Area E south of the WPCP may overflow into Area D and New Chicago Marsh when the culvert capacity through the WPCP and under Los Esteros Road is exceeded.

Area F is the area east of Zanker Road south of the sludge ponds. Area F is approximately 260 acres in size. The area is currently agricultural, and drains to ditches along Zanker Road which discharge to the WPCP drainage culverts near the sludge ponds, which ultimately discharge to Artesian Slough. Overflows from Area F can affect Area E south of the WPCP, and can ultimately reach New Chicago Marsh as noted above.

Area G is located north of the sludge ponds at the northern boundary of the *Master Plan Area*. Area G is approximately 85 acres and includes constructed wetlands maintained by the Santa Clara Valley Water District and a recycling facility, which is part of the Newby Island Landfill property. The constructed wetlands are surrounded by levees and drain to nearby sloughs. The wetland area may receive water from Coyote Creek during high flow events. The recycling facility is part of the self-contained drainage of the Newby Island Landfill. All Newby Island drainage is held in detention ponds, tested according to an established protocol, and ultimately discharged to Coyote Creek.

### ***Sea Level Change and Land Subsidence***

The San Francisco Bay Conservation and Development Commission (BCDC) has identified the issues of sea level changes and land subsidence as being a potential long term problem in areas like Alviso, which may be subject to tidal flooding. A study of the issues by BCDC estimated that long term sea level changes could add 0.36 feet to the tidal elevations over 50 years. The same study also estimated that land subsidence in Alviso of up to 5 feet could occur over 50 years. Review of the assumptions used in the study show that the land subsidence estimates were based on recorded elevations in Alviso before the 1960's. Little elevation data has been collected since that time. However, the low groundwater levels which caused the subsidence were generally corrected in the early 1960's. The Corps of Engineers and Santa Clara Valley Water District do not expect significant subsidence to be likely in the future. Unpublished survey data from the Santa Clara Valley Water District has shown typical subsidence values of 0.1 feet or less in 20 years, since 1968.

### ***High Groundwater Levels***

Two principal regional groundwater aquifers are present in the Santa Clara Valley. The lower aquifer occurs below a depth of approximately 45 feet. This lower aquifer is the primary source of good quality groundwater in the area. In Alviso, the shallow, upper aquifer is separated from the lower aquifer by a layer of Bay Mud or other sediments with low permeability. The water quality of the upper aquifer is impacted by saltwater intrusion from San Francisco Bay.

The Alviso area has had high groundwater levels in recent years. This is due to the Santa Clara Valley Water District groundwater recharge program. Reservoir water and imported water are released into streams to percolate into the ground. Off channel percolation ponds have also been constructed to increase percolation. Groundwater levels as high as elevation - 2 feet (two feet below sea level) have been observed in Alviso during the dry season.

### Water Quality

The *Alviso Master Plan Area* includes portions of the Coyote Creek and Guadalupe River watersheds. The Coyote Creek watershed covers an area of about 350 square miles, with flows of 13,345 acre feet per year. The Guadalupe River watershed covers an area of about 90 square miles (not including bay marsh areas and areas above upland reservoirs), with flows of 25,927 acre feet per year. Various land uses occupy each watershed, with each land use discharging different types of contaminants. Land uses within these watersheds include industrial, residential/commercial, and open space. Based upon data compiled for the *Santa Clara Valley Nonpoint Source Control Implementation Program* (March, 1990), which evaluated mean annual wet weather loads by municipality and watershed, these land uses annually discharge the following metals into these watersheds:

<p style="text-align: center;"><b>TABLE 4</b>  <b>Annual Nonpoint Source Discharge of Metals By Watershed</b>  <b>(in pounds)</b></p>		
<b>Contaminant</b>	<b>Coyote Creek Watershed</b>	<b>Guadalupe River Watershed</b>
Cadmium	76	155
Chromium	1,252	2,583
Copper	1,767	3,999
Lead	1,974	4,375
Nickel	2,701	5,683
Zinc	7,914	15,913

Suspended sediments and organic materials are also discharged into the Guadalupe River and Coyote Creek.

Under existing conditions, the study area is a mixture of developed property with impervious surfaces and vacant lands that are unpaved. Little or no apparent erosion occurs under existing conditions, with the exception of localized stretches along the Guadalupe River and Coyote Creek channels.

Runoff from paved areas would be expected to contain concentrations of grease, oil, heavy metals, accumulated dirt, and rubbish. Runoff from agricultural areas may currently contain agricultural chemicals, including pesticides, herbicides, and fertilizers. Runoff from



residential properties would include pesticides and other gardening chemicals, grease and oil, soap (from car washing), and litter.

## **2. Drainage, Flooding, and Water Quality Impacts**

### **Thresholds of Significance**

For the purposes of this project, a drainage, flooding or water quality impact is considered significant if the project will:

- increase the potential for flood related property loss or hazard to human life; or
- significantly increase peak stormwater runoff; or
- significantly increase stormwater pollution discharges to stormwater systems; or
- substantially degrade water quality; or
- cause substantial flooding.

### **Flooding Impacts**

Development in the *Alviso Master Plan Area* must conform to the City's floodplain management ordinance. The ordinance is required for the City to participate in the National Flood Insurance Program. The floodplain ordinance requires all new construction, or substantial reconstruction of existing structures, to have first floor elevations one foot above the existing 100-year flood elevation as shown on the Flood Insurance Rate Maps. In the tidal floodplain area shown on Figure 11, this would require first floor elevations of 10 feet (NGVD). Existing ground elevations range from -1 to 15 feet NGVD within the study area, but only the southeast corner of the focused study area is above 10 feet NGVD (refer to Figure 4). Certain types of commercial structures could be flood protected to allow lower first floor elevations.

In addition, the City has a floodplain management plan for the North San Jose area which considers the effects of new development on the freshwater overflows from Coyote Creek and Guadalupe River. The plan requires new construction to allow shallow flooding to cross the property after development. This generally requires maintaining parking and open space areas for flood conveyance. To balance the impact of development on the water surface elevation, each site is restricted to allow buildings or fill on only 50 percent of the available property, as measured along a cross section perpendicular to the direction of the sheet flow across the site. The blockage criteria was not applied to the existing development area in Alviso.

Site restrictions that allow buildings or fill on only 50 percent of a site will only be in effect until the upstream channel projects are completed. Portions of the study area east of Zanker Road have effectively been removed from the 100-year floodplain due to the Coyote Creek channel improvements north of SR 237. The area is in the process of being removed from the Flood Insurance Rate maps. Areas subject to freshwater flooding from the Guadalupe River will remain in the floodplain until the completion of the upstream flood control project. All of the areas in the *Alviso Master Plan Area* subject to freshwater flooding from the Guadalupe River are also within the tidal floodplain area.

Based on the floodplain management ordinance, new development in the tidal flooding area would continue to be required to have first floor elevations above the 100-year tidal floodplain elevation, which is defined as adequate protection against flood damage. Fill within the tidal floodplain area would not affect the potential flood elevation because the tidal flood condition assumes a major levee failure in which flood elevations within the floodplain match the tidal elevation in the bay and sloughs. The constraint on filling or blocking no more than 50% of the property might, therefore, no longer be necessary.

- **The proposed *Alviso Master Plan* includes areas within the existing 100-year tidal and freshwater floodplain. After completion of the Guadalupe River flood control project, only tidal flooding will continue to be a factor. Development within this area would be exposed to potentially significant impacts associated with tidal flooding, including property damage and safety risks. (Significant Impact)**

### **Drainage Impacts**

The potential drainage impacts of the *Alviso Master Plan* depend on the specific watershed or drainage system which may be affected, and the extent of proposed development. For evaluation purposes, the potential drainage impacts were estimated based on projected increases in runoff. Drainage improvements would normally be required for new development, and may be part of individual projects or city systems which would serve larger areas.

The main drainage impact from new development is the increase in runoff which results from increased impervious area. Increased impervious area, both buildings and pavement, reduces the exposed soil and vegetation which traps rainfall. This affects both the peak flow rate and the total volume of runoff from a particular rainfall event. The peak flow rate affects the need for conveyance systems such as storm drains or ditches which carry runoff away. The total volume of runoff affects the need for disposal systems such as detention ponds, pump stations, or stream channels which are the end points of the collection systems in Alviso.

Because of the levees along the stream channels in the *Alviso Master Plan Area*, the disposal systems and the impact of additional runoff on the disposal systems is particularly significant. All of the existing drainage systems discharge to pump stations or storm drain outfalls with flapgates. Most areas include some detention storage, either constructed detention ponds or existing wetlands which contain excess runoff. Detention storage acts to contain excess runoff until the disposal system can remove the stored water from the area. It also acts to reduce the peak flow rate which the disposal system may be designed to remove. A pump station with no detention storage would be required to pump the peak design flow, while a comparable station with detention storage could be designed to pump only the average flow over 12 or 24 hours. The savings in pumping capacity may be 80 percent of the larger station capacity.

The impact of proposed development was evaluated based on the potential increase in runoff volumes. The 24-hour runoff volume from an area was estimated as a percentage of the 24-hour rainfall based on the Soil Conservation Service curve-number methodology. The

existing condition 24-hour runoff volume was adjusted based on the estimated increase in impervious area anticipated to occur from implementation of the *Master Plan* as proposed. No specific estimates for the increase in peak runoff rates were prepared, although collection systems are discussed for each area.

In the subsection of Area A between Calabazas Creek and San Tomas Aquino Creek there is no existing drainage system. The existing area is undeveloped and is a wetland. The area is designated as Public Park/Open Space on the existing General Plan, and no change is proposed by the *Master Plan*. Existing drainage from the area would not be affected.

In the remainder of Area A, on both sides of Gold Street west of the Guadalupe River, the existing drainage system only serves the existing mobile home park. The system was designed for a 3-year storm. If the *Master Plan* is approved and implemented, approximately 60 acres outside the mobile home park would be developed as light industrial and industrial/commercial. This would increase the 24-hour runoff volume by 65 percent for a 2-year storm, and by 48 percent for a 10-year storm. The increased runoff would require construction of new storm drain collection and disposal systems.

In Area B, the majority of the area is developed under existing conditions. The City is preparing a storm drain master plan for the area because the existing storm drainage system does not provide 3-year capacity. The *Master Plan* would increase the runoff in the area by infill of the existing undeveloped areas and by adding approximately 14 acres of light industrial development in the USA expansion within New Chicago Marsh. Development under the *Master Plan* would increase the estimated 24-hour runoff volume by approximately 30 percent for a 2-year storm, and by 20 percent for a 10-year storm. New development would generally be required to extend stormwater collection lines to their property, but would not be required to upgrade the existing lines which run through the residential neighborhood to the south, into which their stormwater runoff would drain.

The City of San Jose is planning improvements to the existing storm drain systems in Area B. These will include both collection system and disposal system improvements. The planning study will consider both existing and future development conditions. Until these future drainage improvements are completed, additional development may increase the frequency and extent of drainage problems in the existing neighborhood.

Area C, the new development area along North First Street, Disk Drive and Nortech Parkway, is approximately 20 percent developed under existing conditions. Development of the remainder of the area with commercial, industrial and industrial park land uses would increase the 24-hour runoff volume by approximately 95 percent for the 2-year storm, and by 55 percent for the 10-year storm. The storm drain system in Area C contributes to the Oakmead Pump Station drainage system south of SR 237. The collection system, detention pond and pump station have been designed to include development in Area C. The remainder of the collection system would need to be built as planned concurrent with future development.

Area D, the New Chicago Marsh drainage west of the WPCP, is currently undeveloped. The area would generally remain public and private open space in the *Master Plan*. The existing runoff conditions would not be affected.

Area E, the Artesian Slough drainage west of Zanker Road, includes the WPCP and the agricultural area south of the WPCP. The agricultural area is designated for public park and open space land use in the *Master Plan*. The existing runoff conditions would not be affected by the proposed uses in the *Master Plan*.

Area F, the drainage area south of the WPCP and east of Zanker Road, drains toward Zanker Road and north to the WPCP and the Artesian Slough system. For the *Master Plan*, approximately 130 of 250 acres in Area F would be developed as light industrial land uses, similar to the existing General Plan. The 24-hour runoff volume would increase by approximately 100 percent for the 2-year storm, and by 55 percent for the 10-year storm. Development in Area F under the *Master Plan* would require construction of new storm drainage systems.

Area G, the drainage area north of the sludge ponds, would continue to be designated public/quasi-public in the *Master Plan*. The existing runoff conditions would not be affected.

- **Implementation of the proposed *Master Plan* would result in potentially significant storm drainage impacts, in that it would generate total and peak event stormwater flows in excess of the capacity of existing stormwater collection and disposal systems. (Significant Impact)**

### **High Groundwater Levels**

High groundwater levels can be a significant problem to structures in the lowest areas. Foundation problems and differential settlement can cause damage to buildings and to infrastructure such as water and sewer lines. In addition, surface seeps can occur. Surface seeps can cause development complications and may establish wetlands in some areas if drainage is not provided after grading. Impacts from high groundwater levels are also discussed in Section II.C. Geology, Soils and Seismicity.

- **Future development allowed by the *Alviso Master Plan* could be exposed to high groundwater levels, which can result in damage to structures. (Significant Impact)**

### **Water Quality Impacts**

This section discusses water quality impacts from nonpoint sources. Contamination from chemical spills, former landfills, and industrial sources is addressed in Section E., Public Health and Safety.

Long term effects on the water quality of the surface runoff from the *Master Plan Area* would occur as a result of the construction of buildings, paved streets and parking areas. Petroleum derivatives from parked cars and asphalt would potentially contaminate surface runoff. Litter, sediment, asbestos and other debris from roof drains, parking lots and outdoor activity areas will be carried by stormwater runoff to the nearby creeks and sloughs. Landscape maintenance and gardening activities will also result in potential surface water contamination when pesticides, herbicides or chemical fertilizers are used. Erosion or runoff



from parking lots could also increase sedimentation impacts in the Guadalupe River and/or Coyote Creek.

The proximity of the entire *Master Plan Area* to baylands, waterways and San Francisco Bay means that more of the pollutants in storm runoff could reach these water bodies than might be the case otherwise.

- **New development in the *Master Plan Area* will increase stormwater runoff, and will increase the amount of contamination in that runoff. (Significant Impact)**

### **Impacts of the USA Expansion**

Expansion of the USA would allow for development on lands within watershed Area B. Development in this area would contribute to an existing storm drain system which does not meet current design standards. Increased runoff from the USA expansion would increase the 24-hour runoff volumes by approximately 30% for a two-year storm and by 20% for a 10-year storm, to a collection system that has less than three-year design capacity.

In addition, the elevation of this area is near zero feet NGVD and site elevations will need to be raised to drain stormwater to the existing storm water system. It may be technically feasible to drain the area to New Chicago Marsh, however that would result in significant water quality impacts to salt marsh habitat.

- **Development in the area of the proposed USA expansion would result in potentially significant storm drainage impacts, in that it would generate stormwater flows in excess of the capacity of existing stormwater collection and disposal systems. Although it may be feasible to drain this area to surrounding wetland areas, this could result in significant water quality impacts to New Chicago Marsh. (Significant Impact)**

### **3. Mitigation for Drainage, Flooding, and Water Quality Impacts**

#### **General Plan Policies**

The following General Plan policies would provide mitigation for future potential water quality and flooding impacts.

- *Flooding Policy #1* - New development should be designed to provide protection from potential impacts of flooding during the "1%" or "100-year" flood.
- *Flooding Policy #4* - The City and the Santa Clara Valley Water District should cooperate to develop flood control facilities to protect the Alviso and North San Jose areas from the occurrence of the "1%" or "100-year" flood.
- *Residential Land Use Policy #5* - Residential development should be allowed in areas with identified hazards to human habitation only if these hazards are adequately mitigated.

- *Level of Service (Storm Drainage and Flood Control) Policy #12* - New projects should be designed to minimize potential damage due to stormwaters and flooding to the site and other properties.
- *Level of Service (Storm Drainage and Flood Control) Policy #15* - The City should continue to cooperate with other public and private jurisdictions and agencies to coordinate emergency response and relief efforts in case of flooding.
- *Water Resources Policy #5* -The City should protect groundwater recharge areas, particularly creeks and creeksides, and riparian corridors
- *Water Resources Policy #7* - The City shall require the proper construction and monitoring of facilities storing hazardous materials in order to prevent contamination of the surface water, groundwater and underlying aquifers. In furtherance of this policy, design standards for such facilities should consider high groundwater tables and/or the potential for freshwater or saltwater flooding.
- *Water Resources Policy #8* - The City should establish nonpoint source pollution control measures and programs to adequately control the discharge of pollutants into the City's storm sewers.
- *Bay and Baylands Policy #5* - The City should continue to participate in the Santa Clara Valley Non-Point Source Pollution Control Program and take other necessary actions to formulate and meet regional water quality standards which are implemented through the National Pollution Discharge Elimination System Permits and other measures.

#### **Other Programmed Mitigation Measures**

- ❖ Developers of projects greater than five acres in size would file a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) with the Regional Water Quality Board prior to commencing construction. The SWPPP must address mitigation for both the construction and post construction period. The SWPPP would include erosion and sediment control measures, waste disposal controls, post construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management controls.
- ❖ All future buildings located in the *Alviso Master Plan Area* would be engineered and constructed in accordance with current Uniform Building Code and seismic design criteria.

**Conclusion:** Implementation of the General Plan policies and Programmed Mitigation Measures are sufficient to reduce flooding , drainage and water quality impacts from implementation of this *Master Plan* to a level of nonsignificance, except for drainage and water quality impacts resulting from expansion of the Urban Service Area. **(Less Than Significant Impacts With Mitigation)**

Expansion of the Urban Service Area into New Chicago Marsh may cause a significant increase in stormwater that would cause more frequent exceedances of existing collection systems in the nearby residential neighborhood, and could result in significant water quality impacts to New Chicago Marsh as a result of its proximity to the marsh on three sides. **(Significant Unavoidable Impact)**

### **Mitigation Measures to be Considered at the Time of Future Development**

To address drainage impacts, the City will ensure that specific development projects provide adequate stormwater drainage facilities or detention storage measures, including:

- Development in Areas A and F which would increase runoff would include new drainage and disposal systems as part of any development proposal. In Area A, systems would discharge to San Tomas Aquino Creek or the Guadalupe River. In Area F, systems would discharge to Coyote Creek.<sup>10</sup> Generally, the drainage systems would require detention storage and pump stations or outfalls with flap gates for discharge to the Guadalupe River or Coyote Creek. The size and impact of any detention facilities and associated pump stations would depend on the size, grading and drainage of the proposed development project.
- Development in Area B would impact an existing storm drain system which does not meet current design standards. In-fill development which would increase runoff will be required to either: 1) provide on-site detention to mitigate peak increases, or 2) contribute to off-site improvements which would reduce impacts on the drainage system. Off-site improvements could include diverting runoff from fringe areas away from the watershed, grading open space to reduce runoff, and/or construction of alternate drainage facilities. The area along the Guadalupe River levee west of First Street is an area where new development could construct new systems draining directly to the river, instead of connecting to an existing system with limited capacity. Long-term improvements needed include additional storm drain improvements, detention storage, and pump station improvements. (The City drainage plan for the area will address the long-term improvements needed. These may include additional storm drain improvements, detention storage, and pump station improvements. At this time, no funding source is identified for these improvements.)
- Development in Area C would drain to the existing system and be required to extend the existing collection system to serve the new development.
- Expansion of the Urban Service Area by approximately 14 acres in Area B would require modifications to the drainage system to serve the additional area without lowering the level of service in the existing service area. Development in this area would contribute to an existing storm drain system which does not meet current design standards. In addition, as in other areas of Alviso, buildings would be

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<sup>10</sup>All three streams include major flood control levees for 100-year flood protection. Additional inflows for local drainage would not affect the design channel conditions.

required to be flood protected to the 100-year tidal elevation by either fill or structural flood proofing. This would require elevating the first floor of buildings to approximately ten feet above the existing ground surface at Spreckles Avenue and State Street.

- The City should require soils and geologic review of development proposals to assess such hazards as high groundwater in order to determine if these hazards can be adequately mitigated.

To address long term water quality, the City will ensure that the specific developments consider the inclusion of permanent water quality measures in project design, including:

- Implementing regular maintenance activities (i.e., sweeping, litter control) at the site to prevent soil and litter from accumulating on the project site and contaminating surface runoff.
- Directing stormwater flow from the site into storm drains that have sand filters.
- Maximizing the amount of area available for percolating rainfall, including constructing the paved areas of materials other than asphalt, if feasible. If construction with other materials is infeasible, the paved areas would be designed to permit the maximum amount of stormwater to penetrate subsoils.



## C. GEOLOGY, SOILS, AND SEISMICITY

The following discussion is based upon an evaluation of geological/geotechnical conditions and constraints in the *Alviso Master Plan Area* prepared by *Woodward-Clyde Consultants*. This report included a review of 32 geotechnical investigations completed in the Alviso area over the last 33 years. The *Woodward-Clyde Geological/Geotechnical Conditions and Constraints* report is included in Appendix B.

### 1. Existing Setting

Alviso is located at the northern end of the Santa Clara Valley, near the southern limit of San Francisco Bay. The region is characterized by northwest-trending ridges and valleys which parallel northwest-trending folds and strike-slip faults. Coyote Creek flows northward into San Francisco Bay along the eastern boundary of the study area. The Guadalupe River flows northward into San Francisco Bay through the western portion of the area. Alviso occupies a portion of the flat-lying natural floodplain of these two drainages. The San Jose/Santa Clara Water Pollution Control Plant (WPCP) is located in the northeastern corner of the study area.

Flood control improvements have recently been completed along Coyote Creek by the Santa Clara Valley Water District. The improvements included construction of floodplain levees flanking the natural stream channel in the reaches extending from SR 237 to the salt ponds north of the WPCP sludge drying beds and lagoons. Remedial measures were included in the levee design and construction to minimize the potential adverse effects of earthquake-induced soil liquefaction and levee underseepage.

The Guadalupe River has been realigned from its original, natural course, and levees have been built to increase the channel capacity and minimize the potential for local flooding. A new levee was constructed along the east bank of the river from the Southern Pacific Railroad bridge to the Alviso Marina to minimize flooding from storm water flow and high tides. Unengineered backfill and Bay Mud deposits are probably present within the original channel. Levee heights are currently being raised by the SCVWD to provide additional capacity in the existing Guadalupe River channel. Sediment and denser vegetation encroaching into the low-flow channel have been cited as the cause of decreased channel capacity and resulted in the identified need to increase channel capacity by raising the levees in this reach<sup>11</sup>.

Sludge drying beds and lagoons occupy most of the northeast part of the *Alviso Master Plan Area*. Containment levees were constructed above the original site grade to facilitate drying of the sludge from the WPCP.

Historically, considerable subsidence has occurred in the study area due to withdrawal of groundwater for irrigation and other purposes. Between the period of 1934 to 1967, subsidence in Alviso is reported to have ranged from two to six feet. Parts of Alviso, which were originally located above the level of the Guadalupe River, now lie below it and have

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<sup>11</sup> Guadalupe River Planning Study (Southern Pacific Railroad to Highway 101), Santa Clara Valley Water District, 1995.

required the construction of levees to reduce the potential for flooding. For example, the South Bay Yacht Club building was relocated to higher ground during the raising and widening of the east levee of the Guadalupe River. Measures taken by the Santa Clara Valley Water District have since brought groundwater overdraft under control and minimized subsidence throughout the South Bay Area.

### **Geologic and Soil Conditions**

The depth to bedrock in the Alviso area is estimated to vary from about 2,200 feet to over 3,500 feet, according to interpretations of gravity data. The bedrock is overlain by Pleistocene (2 million to 11,000 years old) alluvial deposits and Older Bay Mud, and Holocene (less than 11,000 years old) near-surface deposits.

Near-surface deposits in Alviso include four principal types of materials: (1) Holocene San Francisco Bay Mud; (2) fluvial deposits of the Guadalupe River, Coyote Creek, and their current and former tributaries; (3) alluvium; and (4) both engineered and unengineered fill materials.

#### ***Bay Mud***

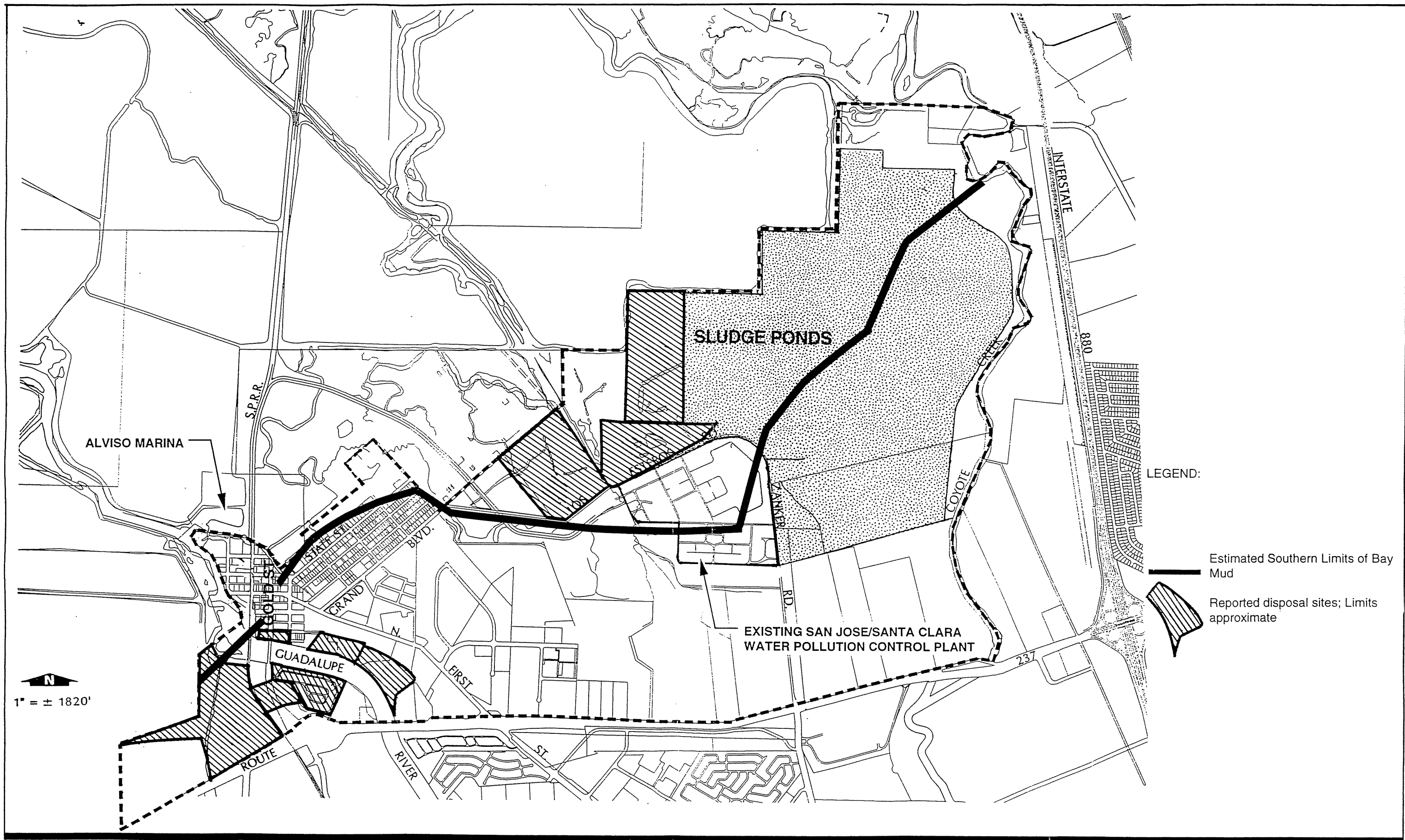
Bay Mud consists of unconsolidated, dark organic-rich plastic clay and silty clay. Locally it contains lenses and stringers of well-sorted silt and sand, fresh- and brackish-water mollusk shells, and beds of peat. Its age is Holocene, with the oldest deposits being approximately 9,600 years old. In the northern portions of the *Master Plan Area*, the Bay Mud thickness is estimated to vary from zero to over 6 feet and laps onto Holocene fluvial deposits. The southern limit of Bay Mud shown on Figure 14 is very approximate. Old sloughs and Bay Mud filled river channels probably extend further south of the estimated limit in localized areas. Along the Guadalupe River, Bay Mud deposits are present in old sloughs to depths in excess of 10 feet. The locations and depths of the Bay Mud filled sloughs are ill-defined.

Although Bay Mud is relatively limited in its extent and thickness within the Urban Service Area of Alviso, it is expected to be relatively weak and potentially detrimental to development where present.

#### ***Fluvial Deposits***

Fluvial deposits include floodplain, flood basin, natural levee, and channel deposits of Coyote Creek, Guadalupe River, and their present and former tributaries. The floodplain deposits in the area tend to be predominately sandy and silty clays. Lenses of silt, sand, and gravel are found through these deposits. They were deposited by Coyote Creek and the Guadalupe River during flood stages. The flood basin deposits are similar to the floodplain deposits, contain clay to very fine silty clay with carbonate nodules and iron-stained mottles. The nodules that characterize the flood basin deposits are the result of interaction between bicarbonate-rich waters from the surrounding hills and saline water from the bay.

The natural levee and flood splay sediments deposited next to Coyote Creek are generally sandy to clayey silt, while those near Guadalupe River tend to be silty clay.



LIMITS OF BAY MUD AND LOCATIONS OF DISPOSAL SITES

FIGURE 14

The channel deposits consist of clays, sandy silt, silty sand and sands. The modern channels of Coyote Creek and the Guadalupe River are lined with rip-rap in some areas and prevented from meandering. The Holocene channel deposits extend outside of the modern channels in some places because they were deposited by former meanders in the streams.

### ***Alluvial Deposits and Old Bay Mud***

Beneath the surficial fluvial deposits, substantial deposits of blue, gray and mottled silty clays are present. Most of these are thought to be products of the ancestral San Francisco Bay. The clays often contain substantial interbed layers of sands and gravels. For the most part, these alluvial clays are overconsolidated and the sands and gravel underbeds are dense. The clays and interbedded granular deposits were laid down as the environment varied between estuarine and fluvial, due to sea level changes in the Pleistocene epoch.

### ***Fill***

The placement of fill in the Alviso area dates back to the middle of the nineteenth century. Engineered fill has been placed for construction of roads, building foundations, and flood control levees. Unengineered fill has been placed to reclaim marsh areas, control floods, and for sanitary landfills. For example, Bay Mud has been replaced by fill to facilitate construction of sludge lagoon levees in some localized portions of the northeast corner of the area (WPCP).

### ***Refuse Fill***

Numerous sites have been and are presently being used for disposal of refuse, garbage, and demolition debris. The disposal sites that have been identified in various past consultants' reports are shown on Figure 14.<sup>12</sup> The limits of the disposal sites are very approximate. In addition, geotechnical investigations for the Southern Pacific Railroad bridges, Guadalupe River improvements and Gold Street bridge improvements encountered refuse and trash in the borings. Therefore, refuse should be anticipated along the banks of the Guadalupe River in the areas of the existing Southern Pacific Railroad and Gold Street bridges. The limits of the fill are unknown. Other undocumented disposal sites are likely to exist in the study area.

## **Groundwater Conditions**

The depth to groundwater in low-lying areas of Alviso is generally five feet or less, based on borings completed for various geotechnical studies. Groundwater levels in areas next to the rivers or wetlands also are influenced by tidal changes. Levee underseepage has been observed at some locations along the Guadalupe River.

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<sup>12</sup>The names or other references to the old landfill sites are taken from public records and other information sources.



## Seismicity and Faults

Alviso is located in a seismically active part of northern California. Earthquakes are generated on strike-slip faults of the San Andreas fault system as the Pacific and North American Plates slide past each other. Earthquakes may also occur on low angle thrust faults in the Coast Range. The faults of the South Bay region are shown on Figure 15.

The Alquist-Priolo Special Studies Zones Act became law in 1973. The purpose of the act is to prevent structures occupied by humans from being located astride traces of active faults (*i.e.*, faults that have experienced surface displacement in the last 11,000 years) and to reduce the hazards from surface ground rupture. The California Division of Mines and Geology (CDMG) distributes fault hazard maps showing known active faults.

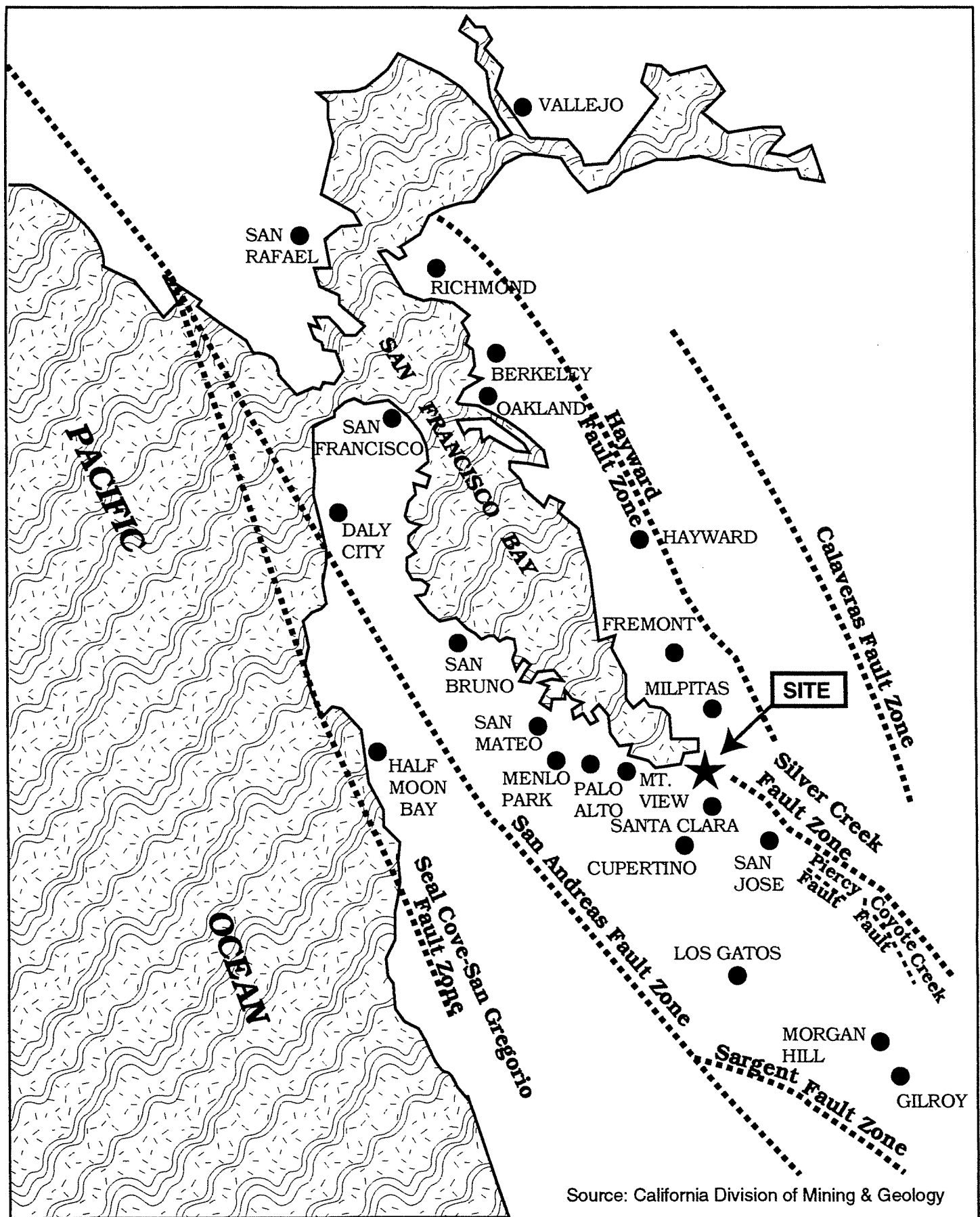
Many faults exist in the southern San Francisco Bay Area and some of them are capable of producing ground motions that can affect the Alviso area. These regional faults include the San Andreas, Hayward, and Calaveras faults as well as many smaller local ones. The approximate distance from the center of the study area, maximum historic earthquake, maximum credible earthquake, and the peak ground accelerations anticipated for each of the faults are presented in Table 5. Other large regional faults capable of producing major earthquakes are the Sargent-Berrocal fault zone and the Seal Cove San Gregorio fault zone. Because of their distance, however, the ground accelerations they would produce at Alviso would be less than those produced by a maximum earthquake on the San Andreas, Hayward, or Calaveras fault.

<b>TABLE 5</b> <b>Regional Faults Capable of Producing</b> <b>Strong Ground Shaking in Alviso<sup>13</sup></b>				
<b>Fault</b>	<b>Approximate Distance from Study Area (miles)</b>	<b>Maximum Historic Earthquake, M<sub>w</sub></b>	<b>Maximum Credible Earthquake, M<sub>w</sub></b>	<b>Estimated Peak Ground Accelerations (g)</b>
Hayward	4	7	7	0.40
San Andreas	14	8	8	0.30
Calaveras	8	6 ½	7	0.30

The acceleration values listed in Table 5 are median values for a medium to stiff, deep soil site. The actual accelerations will vary throughout the study area. In particular, the ground accelerations at individual landfill and levee sites may be somewhat larger, due to amplification effects related to the geometric conditions of the fill. Additionally, sites underlain by soft Bay Mud could experience either amplification or attenuation effects.

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<sup>13</sup>The estimated acceleration values (Moment Magnitude) listed in Table 1 have been based on attenuation relationships described by Boore, et al., Idreiss (1992), and Sadigh, et al.. These references are listed in Appendix B.



ACTIVE FAULT ZONES IN THE SAN FRANCISCO BAY AREA

FIGURE 15

Smaller local faults that have been mapped in the South San Francisco Bay area include the Berryessa, Cascade, Clayton, Coyote Creek, Crosley, Evergreen, Monte Vista, Quimby, San Jose, Santa Teresa, Shannon, and Silver Creek faults. These faults are either too small to generate ground shaking greater than that which can be produced by the Hayward, Calaveras, and San Andreas faults, or they do not show evidence of Holocene activity. Of these, only the Evergreen fault shows enough evidence of Holocene activity to be zoned under the Alquist-Priolo Act.

The Silver Creek Fault is projected through the study area. The Silver Creek fault has probably not ruptured during Holocene geologic time and is not shown on the most recent set of fault hazard maps issued by CDMG pursuant to the requirements of Alquist-Priolo Act.

The San Andreas, Hayward, Calaveras, and Silver Creek faults are discussed in more detail in the report in Appendix B.

## **2. Geologic and Seismic Impacts**

### **Thresholds of Significance**

For the purposes of this project, a geologic or seismic impact is considered significant if the project will:

- be located on a site with geologic features which pose a substantial hazard to property and/or human life (e.g., an active fault, an active landslide); or
- expose people or property to major geologic hazards that cannot be mitigated through the use of standard engineering design and seismic safety techniques; or
- require placement of public improvements and utilities at locations which will require extraordinary maintenance or operating effort; or
- cause substantial erosion or siltation.

Development associated with implementation of proposed land use changes in the *Alviso Master Plan* may be impacted by geologic hazards. These impacts could result from soil conditions and seismic hazards. Due to the flat topography of the area, future development would not be exposed to slope instability, erosion or landslide related hazards.

The boundaries of geologic conditions, such as Bay Mud and potentially liquefiable sands, within the *Alviso Master Plan Area* are not well defined. Additionally, the boundaries of some known undocumented landfills are very approximate. Actual soil conditions may vary significantly from one property to another. Geotechnical and seismic constraints that could affect development within the project area are described below.

### **Soils and Geologic Hazards**

Geologic and soils conditions occurring in the Alviso area which can pose a hazard to structures include Bay Mud, expansive soils, landfills and undocumented fill, and alluvial deposits including loose to medium dense sands. Each of these conditions is described below.

*Bay Mud* is relatively weak, and fill materials placed on sites underlain by Bay Mud may compress and settle. Where old channels exist and the thickness of Bay Mud is variable, differential settlement may occur. Compression and differential settlement can cause damage to structures.

*Expansive soils* can undergo significant changes in volume over time which could damage foundations, streets, and other permanent structures.

Developments on disposal sites, such as *landfills and undocumented fill materials*, are subject to ground settlement. Settlements can be large and erratic, and potentially detrimental to structures. In addition, decomposition within landfills are known to produce methane and other landfill gases. The potential for fires and the need for venting and control of these gases are factors that could effect development of property on or near disposal sites.

Typically, *alluvial deposits* in the area are of moderate strength and compressibility. Heavier structures on these soils may require deep foundations to extend foundation loads into stronger and less compressible soils. Loose to medium dense sands occur along portions of Coyote Creek. These deposits are susceptible to earthquake related ground cracking, lateral spreading and settlement.

In addition to the potential impacts to private development, streets and public utility infrastructure built to serve new development would be effected by the existing conditions. Differential settlement can cause damage to streets, and breaks in utility lines with critical disruption of water and power supply. Excessive maintenance costs for public infrastructure at one location may result in a reduction of such maintenance in other parts of the City. Breaks in sewer lines may cause spills of raw sewage, with associated health and environmental impacts. Disruption of water and/or electrical service can increase the severity of public emergencies.

Geologic and soils conditions occurring in the *Master Plan Area* which can pose a hazard are summarized below.

#### ***Lands South of the Guadalupe River***

Future industrial, commercial, and mixed use development in the area south of the Guadalupe River could occur on properties that contain one or more closed landfills and/or undocumented fills. Developments on disposal sites are subject to the potential risk of ground settlement as well as environmental health and safety concerns. (See also discussion in Section II.E., Public Health and Safety.)

Expansive soils and Bay Mud deposits within this area could potentially impact structures and foundations. Bay Mud deposits that are present within the northern portion of this area, are relatively weak and subject to differential settlement.

#### ***Central Alviso***

Expansive soils and Bay Mud deposits occur within Central Alviso, particularly north of Grand Avenue. These soil conditions could potentially damage existing and future mixed



use development within this area. In addition, undocumented fill materials near the Guadalupe River and north of State Street (including the entire area of the proposed Urban Service Area expansion) could also subject future development to impacts from differential ground settlement.

#### ***North First Street/Nortech Parkway Area***

Future industrial and residential development in the vicinity of North First Street and Nortech Parkway would occur in an area that contains expansive soils that could potentially damage structures. In addition, historic undocumented fills may be present on some sites within the area. Developments on disposal sites are subject to differential ground settlement as well as environmental health and safety concerns.

#### ***Buffer Lands and Coyote Creek Area***

Development in this area could include expansion of the WPCP and future industrial uses along the eastern boundary of the *Master Plan Area*. Expansive soils or loose to medium dense sands may be present, which would potentially impact future buildings.

- **The proposed *Master Plan* will result in future residential, commercial, and industrial development being built on sites which contain expansive soils, unengineered fill materials, and/or Bay Mud, which would pose a substantial hazard to property and/or human life. Construction of public infrastructure on sites subject to potentially significant differential settlement could result in an excessive maintenance burden that would impact both the reliability of critical services and the ability of the City to maintain infrastructure in other areas. (Significant Impact)**

### **Groundwater Impacts**

High groundwater levels in the *Alviso Master Plan Area* near rivers or wetlands and in low-lying areas could impact below grade structures. The hydrostatic forces of groundwater can damage below grade structures unless structures are designed to be water-tight and resist buoyant forces or permanent subsurface drainage is provided.

- **Future development allowed by the *Alviso Master Plan* could be exposed to high groundwater levels, which can result in damage to structures. (Significant Impact)**

### **Seismic Impacts**

The *Alviso Master Plan Area* is within the seismically active San Francisco Bay Area and severe ground shaking is probable during the anticipated life of future residential, commercial, and industrial development. Additionally, portions of the *Master Plan Area* are classified as having a high potential for earthquake-induced liquefaction, lateral spreading, and settlement. Seismically induced ground failure related to liquefaction is most likely in the floodplain areas of Coyote Creek and the Guadalupe River slough area.

The Silver Creek fault zone, which has been assumed to extend below the *Master Plan Area*, is buried by alluvial deposits. No other active or potentially active faults are known to cross the area and the potential for ground surface rupture is very low.

- **Future development allowed by the *Alviso Master Plan* would be exposed to potentially significant seismic impacts. (Significant Impact)**

### ***Impacts of the USA Expansion***

Expansion of the USA would allow for development on lands underlain by Bay Mud, and on which fill materials have been placed without permits. Soil conditions are, therefore, likely to result in the potential for significant structural damage in the event of a seismic event. This would include damage to infrastructure as well as structures.

In order to adequately drain the area of the proposed USA expansion, significant additional fill will be required to achieve positive drainage to the existing stormwater collection system south of the USA expansion. Fill materials placed on Bay Mud are subject to compression and settlement, increasing the risk of structural damage.

- **Development in the area of the proposed USA expansion could result in structures, including infrastructure such as roads and utility lines, sustaining significant damage due to settlement or during a seismic event. (Significant Impact)**

### **3. Mitigation for Geologic and Geotechnical Impacts**

Most potential geologic impacts and seismic hazards associated with future residences, and commercial and industrial development within the *Master Plan Area* would be mitigated by conformance to the following General Plan policies:

#### **General Plan Mitigation**

- *Soils and Geologic Conditions Policy #1* - The City should require soils and geologic review of development proposals to assess such hazards as potential seismic hazards, surface ruptures, liquefaction, landsliding, mudsliding, erosion and sedimentation in order to determine if these hazards can be adequately mitigated.
- *Soils and Geologic Conditions Policy #2* - The City should not locate public improvements and utilities in areas with identified soils and/or geologic hazards to avoid any extraordinary maintenance and operating expenses. When the location of public improvements and utilities in such areas cannot be avoided, effective mitigation measures should be implemented.
- *Soils and Geologic Conditions Policy #5* - The Development Review process should consider the potential for any extraordinary expenditures of public resources to provide emergency services in the event of a manmade or natural disaster.

- *Soils and Geologic Conditions Policy #6* - Development in areas subject to soils and geologic hazards should incorporate adequate mitigation measures.
- *Soils and Geologic Conditions Policy #8* - Development proposed within areas of potential geological hazards should not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties.
- *Earthquake Policy #1* - The City should require that all new buildings be designed and constructed to resist stresses produced by earthquakes.
- *Earthquake Policy #5* - The City should continue to require geotechnical studies for development proposals; such studies should determine the actual extent of seismic hazards, optimum location for structures, the advisability of special structural requirements, and the feasibility and desirability of a proposed facility in a specified location.
- *Hazards Policy #1* - Development should only be permitted in those areas where potential danger to the health, safety, and welfare of the residents of the community can be mitigated to an acceptable level.

#### **Other Programmed Mitigation Measures**

The following mitigation measures would also be implemented to reduce potential geologic and seismic hazards.

- ❖ All future buildings located in the *Alviso Master Plan Area* would be engineered and constructed in accordance with current Uniform Building Code and seismic design criteria.

**Conclusion:** Implementation of the General Plan policies, and Programmed Mitigation Measures will reduce potential soils, geologic, and seismic hazards from implementation of this *Master Plan* to a level of nonsignificance. Specific mitigation measures will be addressed as part of the development review process, or in conjunction with issuance of building permits. Mitigation to avoid damage to public infrastructure in the USA expansion area may need to include extraordinary design measures. **(Less Than Significant Impact With Mitigation)**

#### **Mitigation to be Considered at the Time of Future Development**

Implementation of the following mitigation measure at the time of project development would be required to further reduce potential geologic and seismic hazards to a nonsignificant level:

#### ***Geologic and Soils Impacts***

- Detailed site specific soils and geologic investigations will be required prior to design and construction of all future new structures within the *Alviso Master Plan*

*Area.* These investigations would assess the existing soil conditions and groundwater conditions to be considered for structural design and construction.

- Extension of public utilities and infrastructure to serve development in the USA expansion area would be required to be designed to withstand seismic and structural damage in conformance with General Plan policy.



## D. VEGETATION AND WILDLIFE

The following discussion on vegetation and wildlife is based upon technical reports prepared by H.T. Harvey and Associates. The reports specifically address sensitive biological resources in those portions of the *Alviso Master Plan Area* that are subject to future development or intensified use. Portions of the *Alviso Master Plan Area* not presently considered subject to development (*i.e.*, lands owned by the WPCP and lands to the north of the Urban Service Area boundary) are addressed in less detail. Copies of these reports are included in Appendix C.

### 1. Existing Setting

#### Overview

The biological resources of the *Alviso Master Plan Area* have been substantially modified by current and historic land uses. Much of the *Master Plan Area* is comprised of developed lands, which include industrial, commercial and residential uses. Other developed uses include levees, roads, railroad tracks, landfills, and a golf driving range. Large portions of the focused Study Area are farmed. The diversity of native plants and animals in developed areas is generally low.

Areas with higher habitat values include scattered seasonal wetlands located within annual grasslands, fallow fields, a wetland mitigation site located north of SR 237 at the western end of the Urban Service Area, the narrow strips of riparian vegetation along Coyote Creek and the Guadalupe River, evaporator ponds, the diked salt marshes, and tidal marshes of the San Francisco Bay.

According to State of California records, much of the *Master Plan Area* is located within historic tidal marshes. This accounts for the relatively level topography of the *Master Plan Area*. Extensive groundwater pumping in the vicinity of the *Alviso Master Plan Area* resulted in ground subsidence throughout the area from the late 1930's through the late 1960's. Ground elevations within the *Master Plan Area* now range from approximately -1 to 15 feet National Geodetic Vertical Datum (NGVD).

Soils of the project area have been mapped by the U.S.D.A. Soil Conservation Service as Alviso, Campbell, Cropley, "made land", tidal flat, and Willows clay. With the exception of "made land", these are soils of tidal flats and nearly level alluvial plains. Some of these soils are clays and clay loams which have been classified by the Soil Conservation Service as "hydric". "Hydric" soils have developed under the anaerobic conditions imposed on them by soil saturation and/or inundation and are typical of wetlands. Most of the wetlands of the *Master Plan Area* have been diked and drained. The drained phases of these soils are no longer considered hydric. Made land consists of imported fill on top of tidal marsh soils.

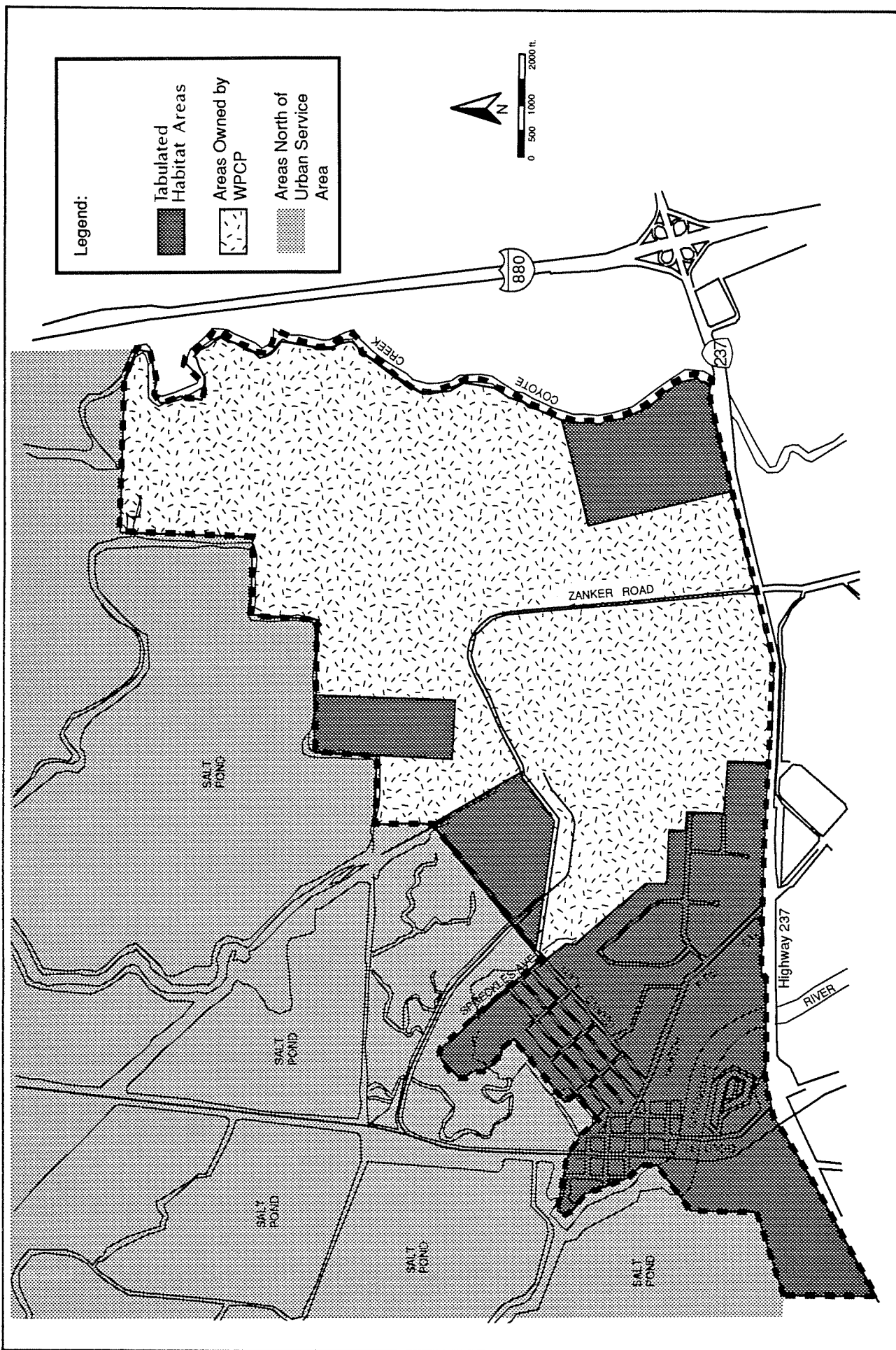
#### Biotic Habitats Within the Master Plan Area

Ten biotic habitats were identified within the *Master Plan Area*. These habitats are mapped in Figure 16. These habitats include residential/developed, ruderal/non-native grassland, agricultural, enhanced/constructed wetlands, brackish marsh, seasonal wetland, salt marsh,



FIGURE 17

TABULATED HABITAT AREAS



aquatic, landfills, and riparian revegetation sites. Where appropriate, the communities have been named according to Holland's (1986) system of classification. The relative areas of these habitats within the *Master Plan Area*, exclusive of WPCP lands, are shown in Table 6, below. The 1,092 acre area tabulated below is shown on Figure 17.

Plants and animals occurring or potentially occurring in the *Master Plan Area* are listed in Appendix C. Expanded descriptions of each of these habitats follow, below.

### ***Residential/Developed***

The majority of the project site consists of developed lands in which native vegetation has been replaced by ornamental trees and shrubs or weedy grasses and forbs. Monterey pine (*Pinus radiata*), Mexican fan palm (*Washingtonia robusta*), deodar cedar (*Cedrus deodora*), coast redwood (*Sequoia sempervirens*), sweetgum (*Liquidambar styraciflua*), firethorn (*Pyracantha* sp.), oleander (*Nerium oleander*), and juniper (*Juniperus* sp.) are common ornamental plants of the *Master Plan Area*.

Developed habitats are typically areas of low wildlife species diversity. Human activities discourage many wildlife species from foraging or breeding within these habitats. Some species, however, have adapted to urban and suburban environments. In Alviso, as in

<b>TABLE 6</b> <b>Habitats Found Within the Master Plan Area<sup>14</sup></b>		
<b>Habitat Type</b>	<b>Acres</b>	<b>Percent of Total</b>
Residential/Developed	455.4	41.7%
Agricultural	172.9	15.8%
Ruderal/Non-native Grassland	138.3	12.7%
Landfill	140.1	12.8%
Constructed Wetlands	81.6	7.5%
Seasonal Wetlands	5.8	0.5%
Brackish Marsh	42.9	3.9%
Diked Salt Marsh	38.6	3.5%
Aquatic	16.5	1.5%
<b>Total</b>	<b>1,092</b>	<b>100%</b>

<sup>14</sup>Exclusive of San Jose/Santa Clara WPCP lands (refer to Figure 17). Totals have been rounded to the nearest whole number.

much of the San Jose area, the most common birds are frequently introduced species such as the European Starling (*Sturnus vulgaris*), House Sparrow (*Passer domesticus*), and Rock Dove (*Columba livia*). Other common birds include the House Finch (*Carpodacus mexicanus*), Northern Mockingbird (*Mimus polyglottus*), and Brewer's Blackbird (*Euphagus cyanocephalus*). Mammals occurring within these developed habitats are generally restricted to introduced species such as the house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and domestic dogs and cats. Common native mammals that have adapted to urban and suburban habitats include raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), the big-brown bat (*Eptesicus fuscus*), and the Mexican free-tailed bat (*Tadarida brasiliensis*).

### Known Bat Roosts

On September 23, 1997, a two-hour survey was conducted to locate potential bat roosts within the developed area of Alviso. Based on this reconnaissance survey, three sites were identified as regular roosts for bats. Evidence suggests that one site may be used as a swarming area as well as a night roost. A swarming area is an area used by bats in the late summer and early fall, possibly to socialize and mate. Mexican free-tailed bats, big-brown bats, and a single Yuma bat (*Myotis yumanensis*) were observed in the former Bayside Canning Company building on Hope Street. Other roosts probably exist among the larger, older structures in the northern section of Alviso. Bats have also been reported to roost in culverts and forage around lights at the golf driving range on North First Street.

To minimize potential acts of vandalism, this report does not specifically identify where bat populations can be found on private property.

### ***Ruderal/Non-native Grassland***

Most of the ruderal/grassland habitats within the *Master Plan Area* were previously agricultural fields. Those lands mapped east of North First Street are former croplands that reverted to ruderal grasslands after the development of industrial facilities off of Nortech Drive. These are highly disturbed areas, with relatively low wildlife values. Between North First Street and the Guadalupe River, there are a variety of similarly disturbed lands, but also some low-lying areas which may seasonally pond. This is also the case for the grasslands between the Guadalupe River and Gold Street. Portions of these grasslands are on top of recent fill, while other portions are low-lying and adjacent to seasonal wetlands.

The ruderal (weedy) plants typical of this community seem to favor areas of imported fill which have been disked or scraped. Species composition and dominance vary with some areas dominated by grasses and others by forbs. Plants common to ruderal/non-native grasslands include ripgut brome (*Bromus diandrus*), farmer's foxtail, hairy wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), smilo grass, bur clover (*Medicago polymorpha*), Russian thistle (*Salsola tragus*), bristly ox-tongue (*Picris echioides*), yellow star thistle (*Centaurea solstitialis*), horseweed (*Conyza canadensis*), and wild radish (*Raphanus sativus*). Transitional areas between non-native grasslands and seasonal wetlands often support mixed stands of Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), Italian ryegrass (*Lolium multiflorum*) and common beet (*Beta vulgaris*).



Ruderal/grassland habitats in the Alviso area support a diversity of wildlife species. Ruderal/grassland habitats provide foraging, breeding and wintering habitat for birds such as the Western Meadowlark (*Sturnella neglecta*) and Mourning Dove (*Zenaida macroura*). They also support small mammals such as the California vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), and California ground squirrel (*Spermophilus beecheyi*). These small birds and mammals, in turn, attract a variety of predators including gopher snakes (*Pituophis melanoleucus*), Northern Harriers (*Circus cyaneus*), Red-tailed Hawks (*Buteo jamaicensis*), and non-native red foxes (*Vulpes vulpes*). Burrowing Owls (*Speotyto cunicularia*) are also known from these habitats in Alviso.

### ***Agricultural***

Agriculture occurs in two disjunct portions of the *Master Plan Area* in Alviso. The southeast corner of the *Master Plan Area* (west of Coyote Creek and north of SR 237) is used for the cultivation of row crops. A second area located between Grand Boulevard and Nortech Avenue has been periodically planted to small grains.

Few, if any, native plants occur on agricultural lands in this portion of the *Master Plan Area*. Some of these lands are periodically planted with oat (*Avena sativa*), or possibly, barley (*Hordeum vulgare*). Truck crops (lettuce, bell peppers, cucumbers, etc.) are cultivated on other agricultural lands east of Zanker Road. Fallow fields typically support ruderal vegetation found in other disturbed portions of the *Master Plan Area*.

Although agricultural lands generally do not support a great diversity of wildlife species, those of the *Master Plan Area* may, by virtue of their proximity to the Bay and nearby seasonal wetlands, provide some foraging value for shorebirds. For example, Long-billed Curlews (*Numenius americanus*), Black-bellied Plovers (*Pluvialis squatarola*), and Great Egrets (*Casmerodius albus*) forage in wet portions of the agricultural fields. Furthermore, several bird species forage for insects and seeds in tilled and planted fields. These include the American Crow (*Corvus brachyrhynchos*), Brewer's Blackbird, Red-winged Blackbird (*Agelaius phoeniceus*), Mourning Dove, and Rock Dove. Other birds that forage in wet fields include the American Pipit (*Anthus rubescens*), Killdeer (*Charadrius vociferus*), and Northern Flicker (*Colaptes auratus*). California ground squirrels, broad-footed moles (*Scapanus latimanus*), and Botta's pocket gophers (*Thomomys bottae*) excavate burrows in agricultural areas. Predators, such as the gopher snake, Red-tailed Hawk, and American Kestrel (*Falco sparverius*) frequently forage in agricultural and nearby grassland habitats.

### ***Enhanced/Constructed Wetlands***

The southwestern portion of the *Master Plan Area*, located between San Tomas and Calabazas Creeks, consists of both enhanced and constructed wetlands and ponds created for mitigation of construction on SR 237. The northern portion of the Zanker Road Landfill also consists of constructed wetlands.

These human-enhanced or constructed wetlands include perennially and seasonally ponded areas as well as mudflats and salt pannes. Emergent marsh vegetation includes broad-leaf cattails (*Typha latifolia*) and California bulrush (*Scirpus californicus*). Fringes of the marsh

that are less frequently inundated support pickleweed (*Salicornia virginica*). Levee slopes surrounding these wetland sites support ruderal vegetation.

The enhanced and constructed wetlands north of SR 237 are used by a large number of bird species throughout the year. Bird numbers are especially high during the winter months. Ponds within these constructed wetlands provide a roosting area for ducks, gulls and shorebirds. These ponds derive their water from the adjacent San Tomas Aquino and Calabazas Creeks. Emergent vegetation, fish, and invertebrates, which enter the ponds from the creek, provide a food source for ducks and shorebirds. Unusual species of shorebirds, such as the Pectoral Sandpiper (*Calidris melanotos*) and Semipalmated Sandpiper (*Calidris pusilla*) sometimes appear in the shallowest pond of the mitigation area. Some of the other avian species observed in these wetlands in 1994 included Pied-billed Grebes (*Podilymbus podiceps*), American White Pelicans (*Pelecanus erythrorhynchos*), Great Blue Herons (*Ardea herodias*), Snowy Egrets (*Egretta thula*), Mallards (*Anas platyrhynchos*), Northern Shovelers (*Anas clypeata*), Ruddy Ducks (*Oxyura jamaicensis*), American Coots (*Fulica americana*), Killdeer (*Charadrius vociferus*), Black-necked Stilts (*Himantopus mexicanus*), American Avocets (*Recurvirostra americana*), Least Sandpipers (*Calidris minutilla*), and Long-billed Dowitchers (*Limnodromus scolopaceus*). Peregrine Falcons (*Falco peregrinus*) have been recorded pursuing shorebirds or ducks on several occasions at this marsh. Red-winged Blackbirds and Western Meadowlarks, observed on site throughout the year, probably nest among the grasses and weedy vegetation on two islands and on upland areas separating the large ponds. Red foxes have also been observed on several occasions in the mitigation area, and may range throughout ruderal and grassland areas. In addition, Yuma bats (*Myotis yumanensis*) may forage on flying or emerging insects directly above the water.

### **Brackish Marsh**

Brackish marsh vegetation occurs in intertidal areas adjacent to the Guadalupe River and San Tomas Aquino Creek, extending from the lower channel banks part way up the levee slopes.

Brackish marsh vegetation of the area consists primarily of California bulrush (*Scirpus californicus*) and alkali bulrush (*Scirpus robustus*). Perennial peppergrass (*Lepidium latifolium*), a non-native invasive species, is also present.

Bird species that nest in dense bulrush within Alviso include the Marsh Wren (*Cistothorus palustris*), Song Sparrow (*Melospiza melodia*), and Common Yellowthroat (*Geothlypis trichas*). Cinnamon Teal (*Anas cyanoptera*) and Mallards (*Anas platyrhynchos*) nest along San Thomas Aquino Creek and the Guadalupe River. California Clapper Rails (*Rallus longirostris obsoletus*) nest in Guadalupe and Alviso and Coyote Sloughs, but are not known within the *Master Plan Area*. Vagrants have been detected at the Alviso Marina. Species that commonly winter in brackish marshes include the Sora (*Porzana carolina*) and Virginia Rail (*Rallus limicola*). Mammals known to forage in brackish marshes, especially during low tides, include the raccoon (*Procyon lotor*), Norway rat, and house mouse.

### **Seasonal Wetland**

Several seasonal wetlands are located throughout the *Master Plan Area*, but because of their small size and location on private property, were not delineated. Aerial photographs of the

area indicate that these wetlands are located primarily in ruderal/grassland and agricultural habitats south of Grand Avenue and north of SR 237. They are seasonally wet, receiving water from local surface runoff during the winter rainy season. Most become dry by summer.

Three seasonal wetlands located between the western border and Gold Street, just north of SR 237 are vegetated with broad-leaf cattails and smaller herbaceous species such as rabbitfoot grass (*Polypogon monspeliensis*) and curly dock (*Rumex crispus*). Others are vegetated with more saline species such as pickleweed, Australian salt bush (*Atriplex semibaccata*), sparscale (*Atriplex triangularis*), and various ruderal species typical of ruderal/grassland habitats.

The complex of ruderal/grassland, agricultural lands and wetland habitats of the greater *Master Plan Area* is of significant value to wildlife, particularly water birds. Large numbers of various shorebird species have been known to use seasonal wetlands during wet winters. Most of these seasonally wet areas occur outside of the USA. Other birds using this complex of habitats include White-crowned Sparrows (*Zonotrichia leucophrys*), Golden-crowned Sparrows (*Zonotrichia atricapilla*), and House Finches (*Carpodacus mexicanus*), species that forage for seeds of grasses and forbs in grasslands and at the margins of seasonal wetlands. The Black Phoebe (*Sayornis nigricans*), Song Sparrow, and Yellow-rumped Warbler (*Dendroica coronata*) often forage within grassland vegetation or over small seasonal ponds for insect prey. Reptiles, such as the common garter snake (*Thamnophis sirtalis*), which preys on Pacific tree frogs (*Pseudacris regilla*) and other small vertebrates, may also frequent this habitat complex. Mammals, such as the California vole, striped skunk (*Mephitis mephitis*) and Virginia opossum (*Didelphis virginiana*) may be attracted by the seasonal water source during the wetter parts of the year.

One vernal pool-like seasonal wetland has been reported within the *Master Plan Area*, north of SR 237 and east of First Street. Further investigation indicates that this area has seasonal wetland characteristics, but not other characteristics which would categorize it as a vernal pool. There are no known vernal pool plant or animal species that are endemic to vernal pools that occur in this depression. According to aerial photo documentation, this wetland did not exist until 1992 when soil was excavated from this site. This created a depression suitable for ponding water due to the presence of Willow clay soils series. This soil series is found in low level positions of alluvial plains and consists of fine textured, poorly drained soils underlain by sedimentary alluvium which is semi-impervious to water percolation. Thus, this area does not meet the criteria for vernal pool habitat.

### ***Diked Salt Marsh***

Small portions of the New Chicago Marsh, a large diked salt marsh, are located within the USA. The Urban Service Area boundary actually extends slightly into the New Chicago Marsh in two locations near the intersection of Gold and Elizabeth Streets. The USA also includes the undeveloped, western portion of the Owens-Corning property, which is the southern extension of the New Chicago Marsh. Other small areas of diked salt marsh may be found along the Guadalupe River and west of Spreckles Avenue. These areas were once tidal, but, due to the construction of salt ponds, are no longer. Inundation is now primarily the result of local winter runoff and is, therefore, seasonal. Areas of winter ponding are dry

by summer, leaving concentrations of salt within the soil profile. New Chicago Marsh is managed by the USFWS, which recently began introducing additional waters from Coyote Creek in the summer. Flap gates placed along Artesian Slough leak, allowing some additional fresh water into the marsh.

The composition and quality of the vegetation is variable throughout this area, ranging from relatively pure stands of salt marsh species including pickleweed, alkali heath (*Frankenia salina*), and saltgrass (*Distichlis spicata*) to mixed salt marsh/grassland areas supporting pickleweed and annual grasses, such as rabbitfoot grass, Italian ryegrass, and Mediterranean barley. Annual grasses have a patchy distribution throughout the southern portions of the Owens-Corning property and could not be delineated separately from salt marsh at the level of analysis completed for this report. The salt marsh near Gold and Elizabeth is disturbed by annual disking.

Diked salt marshes are used by shorebirds and waterfowl. Birds which have been observed roosting or foraging throughout the New Chicago Marsh include Killdeer, Mallard, Northern Shoveler, Snowy Egret, Great Egret, California Gull, and Ring-billed Gull (*Larus delawarensis*). American Avocet and Black-necked Stilt nested in upland areas of the site and produced several young in 1994<sup>15</sup>. Birds commonly observed foraging in the wet areas of the Owens-Corning property include Greater Yellowlegs (*Tringa melanoleuca*), dowitchers, Least Sandpiper, and Black-necked Stilt. Some less common species include Ruff (*Philomachus pugnax*), Lesser Yellowlegs (*Tringa flavipes*), Pectoral Sandpiper, and Stilt Sandpiper (*Calidris himantopus*). Avian predators, such as Northern Harrier (*Circus cyaneus*) and Golden Eagle (*Aquila chrysaetos*) often hunt for small mammals in this area. The diked salt marshes of Alviso also support the salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*). Repeated studies over the years have detected the mouse throughout most of the New Chicago Marsh.

Some artificial fill and urban uses occur north of the USA, in New Chicago Marsh. At least some of the fill has been placed in the 1970's and 1980's. There is no record of permits issued for the filling by either the Corps of Engineers or the City of San Jose. On those properties where such fill and urban uses are found, the variety of species is reduced. Filled land does not function as wetland and does not retain the habitat values of the surrounding marsh.

### *Aquatic*

Aquatic areas consist of primarily unvegetated open waters, barren of rooted vegetation. The main channels of the tidally influenced, channelized, Guadalupe River and San Tomas Aquino and Coyote Creeks constitute the majority of the aquatic habitat of the project site. Two abandoned meander channels of the Guadalupe River, located to the west and east of the river, just north of SR 237 are also present. Water is ponded within these areas year-round. An artificial basin, associated with a long unused sewage treatment plant near the northeastern boundary of the *Master Plan Area*, ponds seasonally.

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<sup>15</sup>Per H.T. Harvey & Associates. 1995. Highway 237 Wetland Mitigation Site, 1994 Annual Monitoring Report. Project No. 506-10.

Aquatic habitats provide resting and escape cover for many species of waterfowl as well as a rich food source. Bird species that have been observed in the creek include the Sora, Virginia Rail, Mallard, Ruddy Duck, and Northern Shoveler. Cliff Swallows (*Hirundo pyrrhonota*), Barn Swallows (*Hirundo rustica*), and Black Phoebe build their mud nests attached to the undersides of bridges over these two waterways and often forage for flying insects over the water. American Coot and Common Moorhen (*Gallinula chloropus*) are commonly seen along the banks of these creeks, and may build their nests among the bulrush and cattails.

Small runs of steelhead trout (*Oncorhynchus mykiss*) and chinook salmon (*Oncorhynchus tshawytscha*) spawn in sections of the Guadalupe River and Coyote Creek. The adult forms of these anadromous fish pass through the lower reaches of these streams within the project area during spawning seasons. Juveniles of these species also may spend time in these channels prior to heading into the bay, and steelhead juveniles have been detected in the lower reaches of Coyote Creek in the summer. Other common fishes, such as Pacific lamprey (*Lampetra tridentata*) and yellowfin goby (*Acanthogobius flavimanus*) are also presumably present in the aquatic habitat within the *Master Plan Area*.

### ***Landfill***

There are two active landfills and a number of inactive landfills within the Urban Service Area and one more active landfill outside the Urban Service Area, but within the Alviso *Master Plan Area*. The locations of reported disposal sites, including closed or "capped" landfills within the Urban Service Area, are shown in Figure 9. The active landfills within the *Master Plan* study area include the southern portions of the Owens-Corning and Zanker Road Landfill properties, and Newby Island, at the northeast corner of the *Master Plan Area*.

The capped landfills are sparsely vegetated with species of the ruderal/non-native grassland community. The active landfills are primarily unvegetated; however, some less intensively used portions of these sites also support ruderal/non-native grassland species.

Active landfills generally do not support a large variety of wildlife species, especially near the active face. The activities of earth-moving equipment, trucks, and other heavy machinery tend to discourage many animals. However, scavenging birds such as a variety of species of gulls and Common Raven (*Corvus corax*) forage among the debris. Nocturnal mammals, such as striped skunk (*Mephitis mephitis*), Norway rat, and house mouse are attracted to active landfills by the presence of organic debris. House Sparrows, Savannah Sparrows, and House Finches may forage around the ruderal edges of landfills.

Landfills that have been closed and capped for one or more years, such as the one located west of Gold Street and east of the San Tomas Aquino Creek, generally function as ruderal grassland habitat. Reptiles that would be common in these areas include the western fence lizard, gopher snake, and common garter snake. Birds, such as the Red-tailed Hawk, Northern Harrier, American Kestrel (*Falco sparverius*), and Loggerhead Shrike may forage for insects, voles or ground squirrels in these areas. Savannah Sparrows, Western Meadowlark, Red-winged Blackbirds, and American Goldfinches may forage on grass seeds and insects on the flat-topped plateau of closed landfills.



### ***Riparian Revegetation Sites***

The two largest riparian revegetation sites occur east of the Coyote Creek Riparian Station near Coyote Creek. The revegetation area adjacent to the levee road supports a relatively dense and multi-layered tree canopy. Tree species are concentrated in the northern portion of this planting area and include Fremont cottonwood, sycamore, red willow, box elder, coast live oak (*Quercus agrifolia*), and blue elderberry (*Sambucus mexicana*). Coyote brush (*Baccharis pilularis*) is the dominant shrub species.

The revegetation area adjacent to the riparian corridor of Coyote Creek (see description of cottonwood riparian forest under *Biotic Habitat East of the Master Plan Area (Outside of USA Boundary)*) supports the tree species listed above, although in smaller numbers. Two additional revegetation areas are located further downstream (refer to Figure 16). These areas support Fremont cottonwood with red willow, box elder and blue elderberry occurring as understory trees. Shrub species include coyote brush, California rose (*Rosa californica*), California sagebrush (*Artemisia californica*) and Brewer's saltbush (*Atriplex lentiformis* ssp. *lentiformis*)

The riparian revegetation areas were planted in stages with the oldest area being ten years old. None of the trees provide the type of habitat produced by mature cottonwoods. Therefore, species that occur within this habitat, such as Western scrub jay and American kestrel, do not require mature riparian forest and prefer open areas. In addition, many song birds make use of this fast growing riparian vegetation. Species include House Finch, Red-winged Blackbird, Bushtit, Song Sparrow and White-crowned Sparrow. Mammals common to this area include most of those found in mature cottonwood forest such as western harvest mouse, house mouse, raccoon, brush rabbit, striped skunk, Virginia opossum and feral cat. This relatively immature riparian habitat does not provide adequate roosting areas for bats.

### ***Lands of the San Jose/Santa Clara Water Pollution Control Plant***

These lands consist of developed, diked salt marsh, non-native grassland, seasonal wetland, agricultural, capped landfill, and aquatic areas. The developed areas include the WPCP facility, extensive sludge ponds, and ranch and farm buildings. Diked salt marshes and seasonal wetlands, including open water and remnant slough channels, are present west of the WPCP offices and south of Los Esteros Road. WPCP lands on either side of Zanker Road are farmed. The capped landfill, north of Los Esteros Road, supports ruderal/non-native grassland vegetation, and may also support seasonal wetlands. A portion of Artesian Slough, a channelized waterway which receives the outfall from the WPCP and empties into Coyote Creek, is located north of Los Esteros Road and east of the Owens-Corning property.

Reptiles which may commonly occur in upland grassland areas of the WPCP include the western fence lizard, southern alligator lizard (*Gerrhonotus multicarinatus*), and gopher snake. Birds commonly observed in this area of largely grassland and seasonal wetland include the Savannah Sparrow, Brewer's Blackbird, House Finch, and Northern Mockingbird. At least three pairs of Burrowing Owls nested within WPCP lands in 1994. In 1996, a series of artificial burrows were constructed and Burrowing Owls were relocated to the site. The owls successfully bred, but many have now dispersed. Several domestic horses regularly graze on portions of these lands as well. California voles, which were observed in

large numbers in this area in 1994, as well as deer mice (*Peromyscus maniculatus*) and western harvest mice (*Reithrodontomys megalotis*) would be expected to occur in this area. Salt marsh harvest mice occur in some of these diked salt marshes.

### **Biotic Habitats of Lands North of the Master Plan Area (Outside USA Boundary)**

These lands consist primarily of diked salt marshes (including areas of open water and non-tidal channels) and salt ponds and tidal marshes. Tidal salt and brackish marshes occur in a relatively narrow strip adjacent to Coyote Creek and Artesian and Alviso Sloughs. Several small developed properties are located within the *Master Plan Area*, but just north of the USA boundary, in New Chicago Marsh. The vegetation of the habitats north of the *Master Plan Area* is essentially the same as that described for the same habitats within the *Master Plan Area*.

Bird species that have been observed foraging on and roosting in salt ponds and diked salt marshes north of the project boundary include Lesser Scaup (*Aythya affinis*), Bufflehead (*Bucephala albeola*), Canvasback (*Aythya valisneria*), Mallard, Northern Shoveler, Eared Grebe (*Podiceps nigricollis*), Wilson's Phalarope (*Phalaropus tricolor*), Herring Gull, Thayer's Gull, California Gull, and Forster's Tern (*Sterna forsteri*).

New Chicago Marsh, a diked salt marsh, is primarily located outside of the *Master Plan Area* in the San Francisco Bay National Wildlife Refuge. A restoration program for the portion of New Chicago Marsh within the San Francisco Bay National Wildlife Refuge has been implemented by the Refuge in order to enhance habitat for the endangered salt marsh harvest mouse and other wildlife endemic to salt marshes. The New Chicago Marsh has been cut off from tidal action for approximately 100 years and the quality of salt marsh habitat has decreased. Poor water circulation and high soil salinities have been identified as factors reducing the quality of the marsh.

Some artificial fill and urban uses occur north of the USA, within New Chicago Marsh. At least some of the fill was placed in the 1970's and 1980's. There is no record of permits issued for the filling by either the Corps of Engineers or the City of San Jose. On those properties where such fill and urban uses are found within New Chicago Marsh, the diversity of wildlife species is reduced. This filled land does not currently function as wetland and does not retain the habitat values of the surrounding marsh.

A constraint to development of the restoration plan was historic subsidence in the northern Santa Clara Valley area. The marsh is located in an area with a mean elevation below the tidal range (approximately 3 feet below mean sea level). A direct connection of the marsh to tidal action would flood the marsh to a depth of 1 to 3 feet. For this reason, a system was designed for the marsh that allows the control of water levels and salinity within the marsh.

### ***WPCP Discharges***

The Water Pollution Control Plant discharges treated effluent into Artesian Slough in the central part of the Study Area. While the effluent is treated to a tertiary level which precludes its having adverse impacts on the South Bay in terms of pollutants, it is a

significant source of fresh water (average levels can be as high as 125 million gallons per day) being introduced into a primarily salt water environment.

In evaluating the WPCP's discharge permit, the San Francisco Bay RWQCB found that the fresh water effluent appears to be contributing to conversion of salt marsh to brackish and freshwater marsh. The RWQCB therefore required certain activities to offset that impact, including programs to reduce the quantity of freshwater being discharged.

The marshes which the RWQCB believe are being impacted by WPCP effluent are outside the *Master Plan Area*, including some near the junction of Artesian Slough with Triangle Marsh.

### **Biotic Habitat East of the Master Plan Area (Outside USA Boundary)**

#### ***Cottonwood Riparian Forest***

Cottonwood riparian forest occurs in discontinuous patches along Coyote Creek, outside the *Master Plan Area*'s eastern boundary. The riparian habitat along Coyote Creek is a patchy, occasionally dense, deciduous, broad-leaved forest which is dominated by Fremont cottonwood (*Populus fremontii*). Numerous other tree species present include blue elderberry (*Sambucus mexicana*), box elder (*Acer negundo*), California black walnut (*Juglans californica* var. *hindsii*), and arroyo willow (*Salix lasiolepis*). A sparse cover of shrubs and herbaceous species such as coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), creeping wild rye (*Leymus triticoides*) and non-native grasses occurs in the understory and in canopy openings.

Riparian habitats generally support rich assemblages of plant species and structurally diverse vegetation. Thus, these habitats provide very high wildlife habitat value, especially with respect to birds. In the Santa Clara Valley, the vast majority of riparian habitat has been lost, which further increases the value of the remaining habitat. Riparian habitat along Coyote Creek represents some of the highest quality riparian habitat remaining in the area. Coyote Creek Riparian Station, a non-profit research organization, is located near the eastern boundary of the *Alviso Master Plan Area* along Coyote Creek. One of the Station's functions is monitoring wildlife associated with the riparian corridor along Coyote Creek. The Station has banded large numbers of birds along the corridor since the late 1980's.

The riparian habitat associated with Coyote Creek provides important habitat for resident, summering, wintering, and migrant birds. This general area of the creek provides especially important habitat for migrant landbirds because it is relatively isolated and is adjacent to the bay. Results of research on migrant birds at Coyote Creek Riparian Station indicate that large numbers of migrants use the habitat for foraging and replenishing energy reserves depleted during migration. These reserves facilitate continued migration. It also appears that the riparian strip along Coyote Creek acts as an important dispersal corridor for migrants as well as resident and breeding species. Typical migrants that utilize the riparian habitat in the area in relatively large numbers include Rufous Hummingbird (*Selasphorus rufus*), Western Wood Pewee (*Contopus sordidulus*), Pacific-slope Flycatcher (*Empidonax difficilis*), Swainson's Thrush (*Catharus ustulatus*), Orange-crowned Warbler (*Vermivora*

*celata*), Yellow Warbler (*Dendroica petechia*), Wilson's Warbler (*Wilsonia pusilla*), Western Tanager (*Piranga ludoviciana*), and Black-headed Grosbeak (*Pheucticus melanocephalus*).

Both resident birds and summering birds breed in the riparian habitat in the Alviso area. Resident birds include species such as American Kestrel (*Falco sparverius*), Mourning Dove, Bewick's Wren (*Thryomanes bewickii*), Anna's Hummingbird (*Calypte anna*), Nuttall's Woodpecker (*Picoides nuttallii*), Black Phoebe, Scrub Jay (*Aphelocoma coerulescens*), Chestnut-backed Chickadee (*Parus rufescens*), and Song Sparrow. Breeding birds that do not overwinter on the site include Black-chinned Hummingbird (*Archilochus alexandri*), Allen's Hummingbird (*Selasphorus sasin*), Ash-throated Flycatcher (*Myiarchus cinerascens*), and Black-headed Grosbeak.

The habitat along the creek provides important wintering habitat for residents and for species found there only in winter. Flocks of wintering Yellow-rumped Warblers (both "Myrtle" and "Audubon's" forms) mixed with Ruby-crowned Kinglets (*Regulus calendula*) and other insectivores occur in the trees and understory and large numbers of sparrows (*Zonotrichia* sp.) use the riparian habitat for cover and feed in adjacent fields.

In addition to birds, the riparian habitat provides habitat for a number of mammals, including several species of bats, such as big-brown bat, Yuma bat and hoary bat (*Lasiurus cinereus*), and the brush rabbit (*Sylvilagus bachmani*), fox squirrel (*Sciurus niger*), deer mouse (*Peromyscus maniculatus*), gray fox (*Urocyon cinereoargenteus*), and raccoon. Large mature cottonwoods provide important roosting areas for solitary species such as the hoary bat and the western red bat (*Lasiurus blossevillii*).

### **Jurisdictional Waters**

Drainage channels and their impoundments are considered to be Waters of the United States. These waters are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) according to provisions of Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act. Jurisdictional drainages include any incised channels which may carry a permanent, intermittent, or ephemeral flow of water. These channels may or may not be navigable. All that is required to establish State or Federal jurisdiction is that a defined channel be present. The USACE has jurisdiction over that portion of each channel defined by the high tide line or ordinary high water marks on opposing channel banks. In Alviso, the high tide line within the Guadalupe River and San Tomas Aquino Creek channels is at approximately 4.4 feet NGVD. Ordinary high water can be identified by features including shelving, scour lines, drift lines, and exposed roots.

Wetlands are also considered to be Waters of the United States. Wetlands are habitats in which soils are intermittently or permanently saturated or inundated. The resulting anaerobic conditions encourage plant species known as *hydrophytes*, which show a high degree of fidelity to such soils. The physical appearance of wetland habitats varies considerably from the open water of a river to the seasonal ponding of alkaline flats, and generally includes swamps, bogs, marshes, vernal pools, riparian woodlands, and other similar areas supporting hydrophytic vegetation. Due to the seasonal nature of rainfall in California, some wetlands may experience soil saturation for only a few weeks out of the year. Wetlands are identified

by the presence of hydrophytic vegetation, hydric soils, and wetland hydrology according to methodologies outlined in the 1987 Corps of Engineers Wetlands Delineation Manual.

All activities which involve the discharge of fill into Waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agree to provide mitigation which results in no net loss of wetland functions or values.

The CDFG has jurisdiction over the bed and bank of defined channels according to provisions of Sections 1601 and 1603 of the California State Fish and Game Code. The CDFG regulates activities which would disturb these channels by requiring that the parties proposing to do the work enter into a Streambed Alteration Agreement.

Jurisdictional waters of the area include both drainages (tributary waters) and jurisdictional wetlands. The report in Appendix C includes mapping showing approximate locations of some of the potential jurisdictional waters outside the boundary of the WPCP. This map is not definitive and is provided only for general informational purposes. Prior to development on or near any of the locations shown on this map, a formal delineation of potential jurisdictional waters should be done.

Jurisdictional drainages include Coyote Creek below ordinary high water and San Tomas Aquino Creek and the Guadalupe River below the high tide line. Jurisdictional wetlands include salt and brackish marshes of the jurisdictional drainages, diked salt marsh, seasonal wetlands, and enhanced/constructed wetlands.

Portions of the area may also be subject to the jurisdiction of the USACE as historic waters under provisions of Section 10 of the Rivers and Harbors Act. These areas may not currently possess the features of wetlands or other waters, but may have historically been tidal marshlands, sloughs, or channels. Historic waters are identified based on detailed evaluation of old maps, photographs and other material. Such areas potentially occur north of Los Esteros Road and State Street; between SR 237 and the Guadalupe River (both south and west of the river); and just east of the Guadalupe River in the southern portion of the Study Area. Generally, the USACE requires the disclosure of the presence of historic waters, but does not require mitigation for their development.

All salt marshes, salt ponds, brackish marshes, and constructed wetlands outside and north of the *Master Plan Area* meet the regulatory definition of "jurisdictional waters".

Jurisdictional wetlands also occur on lands of the WPCP south of Los Esteros Road. These wetlands are part of a complex of wetlands and non-native grassland habitats that historically included tidal salt marsh. A number of old slough channels are still evident in aerial photographs of this area. These wetlands, and other areas of the WPCP lands, may also be considered jurisdictional waters under Section 10 of the Rivers and Harbors Act, because historically they were tidal wetlands.



## Special-Status Plant and Wildlife Species

Several plant and animal species known to occur in the vicinity of the project site have been given special status under Federal or State endangered species legislation or otherwise have been designated as sensitive by State resource agencies or professional organizations whose lists are recognized by responding agencies when reviewing environmental documents. Such species are referred to collectively as "species of special-status". Information concerning threatened, endangered, or other special-status species that may occur in the area was collected from several sources. These sources included the California Department of Fish and Game's Natural Diversity Data Base (CNDDB, 1994), California Wildlife Habitat Relationships species notes (CDFG 1988, 1990a, 1990b), miscellaneous information available through the U.S. Fish and Wildlife Service (USFWS), CDFG, and technical publications. The California Native Plant Society's *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 1994) supplied information regarding the distribution of special-status plants in Santa Clara County.

A search of published accounts for the location of these species was conducted within the Milpitas Quadrangle, in which the *Master Plan Area* occurs, and the eight surrounding quadrangles including Newark, Mountain View, Cupertino, Niles, Milpitas, San Jose West, La Costa Valley, Calaveras Reservoir, and San Jose East, using California Natural Diversity Data Base reports (1994).

Table 7 lists the special-status plant and animal species that are known to occur in the vicinity of the area. Information provided in Table 7 includes the status of individual species and their potential for occurrence in the *Master Plan Area*. An expanded discussion of these species is included in the existing conditions assessment of biological resources contained in Appendix C.

Expanded descriptions of species for which potentially suitable habitat occurs within or adjacent to the USA of the *Alviso Master Plan Area* are provided below.

**Salt marsh harvest mouse** (*Reithrodontomys raviventris*). Federal listing status: Endangered; State listing status: Endangered, California Protected. The salt marsh harvest mouse is found only in saline emergent wetlands of San Francisco Bay and its tributaries. The southern subspecies, *R.r. raviventris*, is restricted to an area from San Mateo County and Alameda County along both sides of San Francisco Bay south to Santa Clara County. The salt marsh harvest mouse occurs primarily in pickleweed marshes. This species has declined substantially in recent decades. This decline is due primarily to diking and filling of marshes, subsidence, and changes in salinity brought about by increasing volumes of fresh water discharge into the bay. Salt marsh harvest mice are known from New Chicago Marsh and other diked salt marshes in the vicinity. This species is likely to occur in those portions of the *Master Plan Area* which lie within the New Chicago Marsh.

**Southwestern Pond Turtle** (*Clemmys marmorata pallida*). Federal listing: none; State listing status: Species of Special Concern. The southwestern pond turtle is a medium-sized brown or olive-colored aquatic turtle, and is found west of the Sacramento-San Joaquin Delta, and south to northern Baja, except in desert areas. The pond turtle is normally found in and along riparian areas, although gravid females have been reported up to a mile away

from water in search of appropriate nest sites. The western pond turtle has been found in Coyote Creek. It is unlikely to occur in tidal portions of the Guadalupe River and San Tomas Aquino Creek, due to the absence of sheltered lagoons where turtles could be protected from tidal surges.

**Loggerhead Shrike** (*Lanius ludovicianus*). Federal listing status: none. State listing status: Species of Special Concern. Loggerhead Shrikes are found throughout central California in open grassland, shrubland, and open woodland habitats at relatively low elevations. Some U.S. populations of the Loggerhead Shrike have declined significantly in the last 20 years. These are primarily eastern populations, although some populations are declining in the western United States as well. Populations in central California appear to be stable. Suitable habitat for this species, which includes densely-foliaged bushes such as coyote brush (*Baccharis* sp.), is present in the study area. Loggerhead Shrikes have been observed within the USA of the *Alviso Master Plan Area* and probably breed there.

**Burrowing Owl** (*Speotyto cunicularia*). Federal listing status: Migratory Bird Treaty Act (16 U.S.C. 703-711); State listing status: Species of Special Concern. The Burrowing Owl is a small, terrestrial owl favoring flat, open grassland or gentle slopes and sparse-shrubland ecosystems. Grasslands lacking tree or shrub canopies are preferred. Burrowing Owls are often found in close association with California ground squirrels (*Spermophilus beecheyi*), using the abandoned burrows for shelter and nesting. Burrowing Owls forage mainly between dusk and dawn for insects and small rodents. Owls have nested in earthen berms, vacant weedy lots, the edges of disked fields, and beneath sidewalks and roads on site in the past 8-10 years or longer. At least ten pairs of Burrowing Owls bred in the Alviso area in 1994, and five of these pairs within the study area. Those numbers have not changed substantially in the intervening years, with the exception of additional owls that have been relocated onto WPCP lands.

**White-tailed Kite** (*Elanus caeruleus*). Federal listing status: none; State listing status: Protected. The White-tailed Kite prefers habitats with low ground cover and variable tree growth. Kite nests are built near the tops of oaks, willows, or other dense, broad-leaved deciduous trees in partially cleared or cultivated fields, grassy foothills, marsh, riparian woodland, and savannah. Kites feed primarily on small rodents (especially California voles) but will occasionally feed on birds, insects, reptiles, and amphibians.

White-tailed Kites have bred along Coyote Creek just downstream from the project area within the past 10 years. Although there are no recent breeding records for this species within the Urban Service Area, potential breeding habitat exists along Coyote Creek. Kites commonly forage in other areas in the *Alviso Master Plan Area*.

**Sharp-shinned Hawk** (*Accipiter striatus*), Federal listing status: none; State listing status: Species of Special Concern. This accipiter is found in several habitats including deciduous and coniferous forest riparian habitats, and open woodlands. Sharp-shinned Hawks typically forage on small birds. Preferred nest sites include dense stands of even-aged trees near water sources. This species occurs throughout the study area during migration and winter and is probably most common in the riparian habitat along Coyote Creek.

**Cooper's Hawk** (*Accipiter cooperii*), Federal listing status: none; State listing status: Species of Special Concern. The Cooper's Hawk is an accipiter which preys primarily on small and medium-sized birds, but it occasionally takes small mammals as well. Cooper's Hawks nest in riparian areas in the Santa Clara Valley, and the riparian vegetation along Coyote Creek provides potential nesting habitat.

**California Yellow Warbler** (*Dendroica petechia brewsteri*): Federal listing status: none; State listing status: Species of Special Concern. In Santa Clara County, Yellow Warblers breed in riparian habitats consisting of cottonwoods, willows and other trees and shrubs. Yellow Warblers are common to abundant migrants in a variety of habitats in Alviso (these birds represent several subspecies of Yellow Warbler). Although the species has not been documented breeding along Coyote Creek in the project area, Yellow Warblers breed upstream and could potentially breed in the area.

**Saltmarsh Common Yellowthroat** (*Geothlypis trichas sinuosa*). Federal listing status: None; State listing status: Species of Special Concern. The Saltmarsh Common Yellowthroat inhabits emergent vegetation and breeds in fresh and brackish marshes and associated upland areas in the San Francisco Bay area. This subspecies (one of approximately 12 subspecies of Common Yellowthroat recognized in North America) breeds from mid-March through early August and pairs frequently raise two clutches per year. Saltmarsh Yellowthroats have been found during the breeding season from Tomales Bay, Marin County, south to the Santa Clara-Santa Cruz county line. Other subspecies of Common Yellowthroats occur commonly in the region during migration and winter (August through May). Because these subspecies cannot be reliably distinguished in the field, determination of the presence of Saltmarsh Common Yellowthroats can be achieved only by locating nests in the breeding range of this subspecies, or via the observation of yellowthroats during the summer months when the Saltmarsh Yellowthroat is the only subspecies in the region. Although little is known regarding the movements of this taxon, the wintering area has been described as coastal salt marshes from the San Francisco Bay region to San Diego County. Common Yellowthroats are primarily insectivorous and glean grasshoppers, caterpillars, and other larvae, and spiders.

The Saltmarsh Common Yellowthroat breeds in the scrubby second growth that borders the outer edge of the cottonwood and willow association along Coyote Creek.

**Tricolored Blackbird** (*Agelaius tricolor*). Federal listing status: none; State listing status: Species of Special Concern. Tricolored Blackbirds are found almost exclusively in the Central Valley and central and southern coastal areas of California. In 1992, surveys by the California Department of Fish and Game determined that the population of this species was much larger than previously believed. Thus, the concern for the species lessened considerably.

The Tricolored Blackbird is highly colonial in its nesting habits and forms dense breeding colonies of up to tens of thousands of pairs. This species typically nests primarily in tall, dense stands of cattails or reeds, but also nests in blackberry, wild rose bushes, and tall herbs. Nesting colonies are typically located near standing or flowing freshwater. Tricolored Blackbirds form large, often multi-species, flocks during the nonreproductive period and range more widely than during the reproductive season.

This species has nested along lower reaches of Coyote Creek twice in past years, and potential breeding habitat for this species exists in scrubby, weedy areas along the creek within the *Master Plan Area*.

**Pallid Bat** (*Antrozous pallidus pacificus*). Federal listing status: none; State listing status: Species of Special Concern. Pallid bats are pale to light brown in color, and, at about 24 grams, the Pacific race is one of the state's largest bats. Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in hollow trees. Colonies can range from a few individuals to over a hundred. Some female/young colonies use their day roost for their nursery as well as a hibernacula, while other colonies migrate locally on a seasonal basis. Although crevices are important for day roosts, night roosts often include open buildings, porches, garages, highway bridges, and mines. Pallid bats may travel up to several miles for water or foraging sites if roosting sites are limited. Pallid bats prefer foraging on terrestrial arthropods in dry open grasslands near water and rocky outcroppings or old structures. They may also occur in oak woodlands and at the edge of redwood forests along the coast. This species may forage on open fields and roost in old buildings found on site.

**Townsend's Big-eared Bat** (*Corynorhinus townsendii*), Federal listing status: none: State status: Species of Special Concern. This once common bat is now considered uncommon in the state. This species may occur in rural buildings (especially in coastal areas), in woodlands, or in xeric environments. Townsend's big-eared bats are particularly sensitive to human disturbance and will abandon a traditional summer or nursery roost if disturbed. Townsend's big-eared bats emerge late in the evening and feed primarily on small moths. This species could roost on-site in an undisturbed attic and forage in the area.

**Salt marsh Wandering Shrew** (*Sorex vagrans halicoetes*). Federal listing status: none; State listing status: Species of Special Concern. Historically, the salt marsh wandering shrew ranged throughout the salt marshes surrounding San Francisco Bay, but since the late 1800's, over 90% of the salt marsh habitat has been lost to diking, filling, erosion, and development. The current population of shrews occurs in isolated tidal marshes in narrow bands along the outboard edges of dikes and in diked marshes. Populations are known from the New Chicago Marsh.

### **Ordinance Size Trees**

The City of San Jose Tree Removal Controls (San Jose City Code, section 13.31.010 to 13.32.100) protect all trees having a trunk which measures 56 inches or more in circumference at a height of 24 inches above the natural grade. The ordinance protects both native and non-native species. A tree removal permit is required from the City of San Jose for the removal of ordinance-sized trees. In addition, any tree found by the City Council to have special significance can be designated as a Heritage Tree, regardless of tree size or species. It is unlawful to vandalize, mutilate, remove, or destroy such Heritage Trees. The City of San Jose typically requires that all trees on a given project site be inventoried and categorized according to size, species and location prior to the issuance of any approval or permit for construction of any improvement.

TABLE 7

## Special-status Plant and Animal Species, Their Status, and Potential Occurrence in the Alviso Master Plan Area

NAME	*STATUS	HABITAT	POTENTIAL FOR OCCURRENCE ON SITE
<b>PLANTS</b>			
<b>State or Federally Endangered or Threatened Species</b>			
California Sea Blite ( <i>Suaeda californica</i> )	FE, IB	Coastal salt marshes	Habitat is marginal, presumed absent.
<b>State Protected or Federal Candidate Species</b>			
Pt. Reyes Bird's Beak ( <i>Cordylanthus maritimus</i> ssp. <i>palustris</i> )	IB	Coastal salt marshes	Habitat is marginal, presumed absent.
Delta Tule Pea ( <i>Lathyrus jepsonii</i> ssp. <i>jepsonii</i> )	IB	Fresh to brackish marshes	Site outside known range; presumed absent.
Hairless Popcornflower ( <i>Plagiobothrys glaber</i> )	IA	Coastal salt marshes	Not found during surveys in 1990; species probably extirpated.
Alkali Milk Vetch ( <i>Astragalus tener</i> var. <i>tener</i> )	IB	Alkaline playas, alkaline vernal pools	Habitat is marginal, presumed absent
Marsh Gumplant ( <i>Grindelia stricta</i> var. <i>angustifolia</i> )	4	Salt marshes	None found during surveys in vicinity of site; presumed absent.
<b>ANIMALS</b>			
<b>State or Federally Endangered or Threatened Species</b>			
Steelhead Rainbow Trout ( <i>Oncorhynchus mykiss</i> )	FT (Central Coast ESU)	Juvenile steelhead remain in freshwater streams for one to two seasons; adults utilize streams for spawning.	Known to occur in the Guadalupe River and Coyote Creek.
Vernal Pool Tadpole Shrimp ( <i>Lepidurus packardii</i> )	FE	Vernal pools	Possible specimen found in Fremont, 3 miles of site, no habitat on site.
California Red-legged Frog ( <i>Rana aurora draytoni</i> )	FT, SP, CSSC	Freshwater pools and ponds with overhanging vegetation	Not recorded on site.
California Brown Pelican ( <i>Pelecanus occidentalis californicus</i> )	FE, SE, SP	Estuarine, marine subtidal, and marine pelagic waters	Occasional visitor to tidal areas on site.
Swainson's Hawk ( <i>Buteo swainsoni</i> )	ST	Forages in open grasslands and agricultural habitats	Rare migrant
White-faced Ibis ( <i>Plegadis chili</i> )	CSSC	Forages in emergent wetlands and wet pastures	Occasional forager on site.
American Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	FE, SE, SP	Forages in many habitats; requires cliffs for nesting	Occasional forager on site.
California Black Rail ( <i>Laterallus jamaicensis coturniculus</i> )	ST, SP	Saline, brackish, and fresh emergent wetlands	No records from project site; presumed absent.
California Clapper Rail ( <i>Rallus longirostris obsoletus</i> )	FE, SE, SP	Saline emergent wetlands	Occasional use of the Guadalupe River marshes within the study area.
Western Snowy Plover ( <i>Charadrius alexandrius nivosus</i> )	FT, CSSC	Sandy marine and estuarine shores and salt ponds	Occasional forager.
California Least Tern ( <i>Sterna antillarum brownii</i> )	FE, SE, SP	Requires sandy estuarine shores for breeding	No suitable habitat on site.



**TABLE 7 (cont.)**  
**Special-status Plant and Animal Species, Their Status, and Potential Occurrence in the Alviso Master Plan Area**

<b>ANIMALS</b>				
<b>State or Federally Endangered or Threatened Species (cont.)</b>				
	SE	Breeds locally in central valley and mountains	Fairly common migrant	
Willow Flycatcher ( <i>Empidonax traillii</i> )				
Saltmarsh Harvest Mouse ( <i>Reithrodontomys raviventris</i> )	FE, SE, SP	Saline emergent wetlands of San Francisco Bay	Known from New Chicago Marsh and other salt marshes of the area.	
<b>California Species of Special Concern, State Protected, or Federal Candidate Species</b>				
Southwestern Pond Turtle ( <i>Clemmys marmorata pallida</i> )	CSSC	Riparian area ponds and slow moving waters	Observed. in Coyote Creek.	
American White Pelican ( <i>Pelecanus erythrorhynchos</i> )	CSSC	Large lakes, estuaries, and salt ponds	Observed on site; occasional visitor.	
White-tailed Kite ( <i>Elanus caeruleus</i> )	SP	Forages in open to herbaceous stages of many habitats	Potential breeding habitat on site, common forager.	
Northern Harrier ( <i>Circus cyaneus</i> )	CSSC	Forages in open to herbaceous stages of many habitats	Observed on site; common forager.	
Sharp-shinned Hawk ( <i>Accipiter striatus</i> )	CSSC	Uses many habitats in winter and migration	Observed on site; occasional forager.	
Cooper's Hawk ( <i>Accipiter cooperi</i> )	CSSC	Uses many habitats in winter and migration	Observed on site; potential breeding habitat on site; occasional forager.	
Golden Eagle ( <i>Aquila chrysaetos</i> )	SP, CSSC	Breeds in cliffs or in large trees or structures	Occasional forager	
Merlin ( <i>Falco columbarius</i> )	CSSC	Uses many habitats in winter and migration	Observed on site; occasional forager during migration and winter	
Burrowing Owl ( <i>Speotyto cunicularia</i> )	CSSC	Flat grasslands	Breeds on site	
Vaux's Swift ( <i>Chaetura vauxi</i> )	CSSC	Breeds in north coast or mountain forests	Fairly common migrant	
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	CSSC	Dense shrubs or bushes	Potential breeder; commonly observed.	
California Horned Lark ( <i>Eremophila alpestris actia</i> )	CSSC	Short-grass prairie, coastal plains, open fields	Not known to breed on site; occasional forager.	
California Yellow Warbler ( <i>Dendroica petechia brewsteri</i> )	CSSC	Breeds in riparian woodland and meadow edges	Common migrant	
Saltmarsh Common Yellowthroat ( <i>Geothlypis trichas sinuosa</i> )	CSSC	Emergent marshes, especially salt and brackish	Breeds on site	
Yellow-breasted Chat ( <i>Icteria virens</i> )	CSSC	Breeds in central valley riparian habitats	Rare transient	
Tricolored Blackbird ( <i>Agelaius tricolor</i> )	CSSC	Breeds near fresh water in dense emergent vegetation	Observed on site; potential breeding habitat; occasional forager.	
Salt Marsh Wandering Shrew ( <i>Sorex vagrans halicoetes</i> )	CSSC	Moist tidal soils, non-tidal salt marsh	Observed on site in 1986; potential habitat on site.	

TABLE 7 (cont.)

## Special-status Plant and Animal Species, Their Status, and Potential Occurrence in the Alviso Master Plan Area

California Species of Special Concern, State Protected, or Federal Candidate Species			
Townsend's Big-eared Bat ( <i>Corynorhinus townsendii</i> )	CSSC	Forages over many habitats, roosts in caves, mines, or building attic spaces	Potential foraging habitat on site.; this species forages many miles from roosts.
Pallid Bat ( <i>Antrozous pallidus</i> )	CSSC	Forages over open habitats; roosts in buildings, caves, mines, rocky outcroppings, and trees	Foraging habitat on site.
California Mastiff Bat ( <i>Eumops perotis californicus</i> )	CSSC	Forages over many habitats, requires tall cliffs or buildings for roosting	Potential foraging habitat on site.; roosting sites unlikely.
American Badger ( <i>Taxidea taxus</i> )	SP	Found in many open habitats	No records from site; presumed absent.

## SPECIAL-STATUS SPECIES CODE DESIGNATIONS

*	FE	=	Designated as an endangered species by the federal government.
	FT	=	Designated as a threatened species by the federal government.
	FPE	=	Proposed for listing as endangered by the federal government.
	SE	=	Designated as an endangered species by the California Fish and Game Commission.
	ST	=	Designated as a threatened species by the California Fish and Game Commission.
	FC	=	Designated as a candidate species by the federal government. Indicates that the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list the species as Endangered or Threatened.
	CSSC	=	Species of Special Concern, including species whose breeding populations in the state have declined severely or are otherwise so low that extirpation is a real possibility. No special legal statutes govern the protection of this group.
	SP	=	Fully protected species in the state of California.
	1A	=	Plants presumed by CNPS to be extinct in California.
	1B	=	Plants considered by CNPS to be rare, threatened, or endangered in California, and elsewhere.
	4	=	Plants considered by CNPS to be of limited distribution. A watch list.

A tree survey was not conducted for the *Alviso Master Plan Area*. Few trees, however, have been observed that meet the City's criteria for an "ordinance-size" or "Heritage" tree. Trees of the area are largely confined to residential neighborhoods and are of small to medium size.

## **2. Vegetation and Wildlife Impacts**

### **Thresholds of Significance**

For the purposes of this project, a vegetation and wildlife impact is considered significant if the project will:

- directly affect or indirectly affect (i.e., through habitat loss) a candidate or listed threatened or endangered species; or
- directly affect species protected under provisions of the Migratory Bird Treaty Act (e.g., Burrowing Owls and nesting raptors); or
- result in an impact to wetlands of greater than one-tenth acre; or
- result in an impact of greater than one acre of sensitive habitat (e.g., riparian areas, oak woodland, serpentine grassland); or
- interfere substantially with the movement of any resident or migratory fish or wildlife species; or
- substantially reduce the habitat of a fish, wildlife, or plant species or cause a species to drop below self-sustaining levels.

### **Loss of Agricultural and Ruderal/Non-Native Grassland Habitats**

Project development allowed by the proposed *Master Plan* could result in the conversion of approximately 614 acres of agricultural habitat to light industrial, industrial park and public-quasi/public uses and approximately 122 acres of ruderal/non-native grassland habitat to light industrial, combined industrial/commercial and mixed use development. These habitats support a variety of relatively common plant and animal species (in addition to a few of special status). The loss of these habitats would reduce the overall carrying capacity of the project area for a variety of common animals like Killdeer, Western Meadowlarks, Mourning Doves, California ground squirrels, California voles, western harvest mice, and others. Predators such as gopher snakes and Red-tailed Hawks would also lose foraging habitat. These losses are unavoidable, but for common, widespread wildlife species, the losses are not significant and no interruption of regional movement patterns is expected.

- **Loss of agricultural and ruderal habitats as a result of implementation of the *Master Plan* will not result in a significantly loss of habitat or interruption of regional wildlife movements. (Less Than Significant Impact)**

### **Loss of Habitat for Various Special-Status Plant and Animal Species**

A variety of special-status plant species either do not occur or are very unlikely to occur on the properties designated by the *Master Plan* for urban uses. This assessment is based on a variety of factors described in the existing conditions report, but include the facts that Alviso

is outside of many of the targeted species natural range, that certain habitats are not appropriate within the study area, or that field surveys conducted within the project development area during proper blooming periods did not detect populations of these species. Such species include California sea blite, Pt. Reyes bird's beak, delta tule pea, hairless popcornflower, alkali milk vetch, and marsh gumplant. Project impacts to these species are expected to be less-than-significant.

Several special-status animal species either do not occur or are very unlikely to occur within the potential development areas for similar reasons. These species, as shown in Table 7, are not expected to be significantly affected. American White Pelicans are routinely found in the salt ponds of the study area, while California Brown Pelicans, California Least Terns, and Western Snowy Plovers, occasionally visit. All should be unaffected by development allowed under the *Master Plan*, as the ponds are outside the existing and proposed Urban Service Area boundary. California Black Rails are very rare in the South Bay, while California Clapper Rails are found in the tidal marshes, in areas unaffected by the project.

A specimen of Vernal Pool Tadpole Shrimp found in Fremont, which is approximately three miles from the *Alviso Master Plan Area*, raised the possibility of further occurrences in appropriate habitat within the area. Further investigation indicates that soils on the Fremont site are substantially different, and preliminary surveys for the tadpole shrimp in Alviso have failed to detect the species. Therefore, no impacts to this species are anticipated.

A long list of special status species only occasionally use the *Master Plan Area*. These species include the Swainson's Hawk, White-faced Ibis, American Peregrine Falcon, Vaux's Swift, Willow Flycatcher, and California Horned Lark. Other species are more common, but are either abundant locally or have adequate alternate habitat outside the areas of direct effects. White-tailed Kites are regular foragers, and Golden Eagles are occasionally seen locally. Merlins regularly winter in Alviso, and Loggerhead Shrikes are regularly seen. Impacts to these species will not be significant. Mammal species including Townsend's big-eared bat, pallid bat, and California mastiff bat may use the project site for foraging. The proposed project would eliminate some foraging habitat for these species, but due to the abundance of similar habitat regionally, impacts to these species resulting from a small loss of foraging habitat are expected to be less than significant.

#### ***Salt Marsh Harvest Mouse***

The salt marsh harvest mouse occurs in the diked wetlands of the Owens-Corning property north of Los Esteros Road and in the New Chicago Marsh. Development within these wetland habitats would probably be considered "take" of this species under provisions of both the Federal Endangered Species Act and the California Endangered Species Act.

Implementation of the proposed *Master Plan* on the former wastewater treatment plant site and in the area proposed for expansion of the USA could result in impacts to the salt marsh harvest mouse, including loss of habitat and possible take of members of the species.

### ***Disturbance to Burrowing Owl Nests***

Breeding pairs and single Burrowing Owls are known to occur within agricultural and ruderal habitats occurring in the *Alviso Master Plan Area*. They also were associated with the Alviso ring levee, occupying ground squirrel burrows in the levee, and foraging in the adjoining agricultural fields and salt marshes. Some of these locations have supported owls for a number of years, while other locations are periodically occupied. Burrowing owl young disperse to new locations, often nearby, so each year different occupied burrows may appear. Ground squirrel control, and agricultural practices in the area probably also influence the distribution of the owls.

Recent developments in the general area, including projects in Milpitas, north San Jose, Santa Clara, Sunnyvale and Mountain View have result in significant recent losses of Burrowing Owl habitat. While the City of San Jose and the State Department of Fish and Game have both undertaken planning efforts to identify and preserve some amount of habitat in the region, these efforts have not yet identified where such habitat may be retained. In the absence of a program to offset the regionally significant loss of habitat, development of the remaining habitat in Alviso would be a significant adverse impact to the species.

The California Department of Fish and Game circulated a staff report on Burrowing Owl Mitigation (October 1995). The Department's definition of impacts include:

- Disturbance within 50 meters (approx. 160 ft.) which may result in harassment of owls at occupied burrows.
- Destruction of natural and artificial burrows (culverts, concrete slabs and debris piles that provide shelter to burrowing owls); and
- Destruction and/or degradation of foraging habitat adjacent (within 100 meters) of an occupied burrow.

One of the stated goals in the San Jose 2020 General Plan is to preserve habitat suitable for Species of Concern, including threatened and endangered species. The Burrowing Owl, while not yet threatened or endangered, is a species of concern, and the *Alviso Master Planning Area* contains a relatively large concentration of the species. Development of a substantial amount of occupied habitat could directly effect Burrowing Owls.

- **The displacement of salt marsh harvest mouse and/or Burrowing Owl populations resulting from implementation of the proposed *Master Plan* would be a significant impact. (Significant Impact)**

### **Riparian, Wetland, and Aquatic Habitat Impacts**

Coyote and San Tomas Aquino Creeks, the Guadalupe River, tidal salt and brackish marshes, diked salt marsh (including New Chicago Marsh), and seasonal wetlands are Waters of the United States. The placement of fill material (soil, rubble, or other solid waste materials) in such jurisdictional waters are generally considered to be significant.



### ***Loss of Seasonal Wetlands***

A minimum of six acres of seasonal wetlands could be lost to development under the Alviso Master Plan. Since this EIR did not include formal wetlands delineations, or even on-site inspection of most of the area, there may be more wetlands not identified that would be impacted by implementation of the proposed *Master Plan*. These seasonal wetlands in Alviso, and around the San Francisco Bay, are used by a suite of shorebird species that are associated with the Bay, and others (e.g., Yellowlegs) that tend to be more abundant in temporarily ponded areas than in permanent wetlands. Most of these seasonal wetlands (primarily located near SR 237 and Gold Street) would also be developed and/or used for roadway improvements under the current General Plan. Nonetheless, these losses would be a significant effect.

Many of the seasonal wetlands within the *Master Plan Area* are also subject to the jurisdiction of the U. S. Army Corps of Engineers, and will require appropriate permits to fill or grade.

### ***Loss of Aquatic Habitat***

Project development under the proposed *Master Plan* could result in the loss of approximately five acres of aquatic habitat. These areas include abandoned meander channels along the Guadalupe River, the abandoned sludge lagoons at the old Alviso Sewage Treatment Plant, and several other areas with permanent or semi-permanent water. This habitat is planned for combined industrial/commercial and mixed uses. These areas could also be developed under the existing General Plan.

Aquatic areas within the *Master Plan Area* provide resting and escape cover for many species of waterfowl, as well as providing a rich food source. While some of the areas potentially lost (e.g. the artificial sewage basin) have marginal aquatic values, losses of aquatic habitats would be a significant environmental effect.

### ***Loss of Diked Salt Marsh Habitat***

There are several locations within the area where diked salt marshes may be affected either by development or by expansion of roadways associated with the *Alviso Master Plan*. These locations include areas adjacent to the existing USA boundary at the northerly termini of Hope Street and El Dorado Street, in the area of Mill Street, on the former wastewater treatment plant site, and in New Chicago Marsh. Such areas may be jurisdictional wetlands, and may support the endangered salt marsh harvest mouse. Losses of diked salt marsh habitat would be a significant environmental effect.

To the extent that the proposed *Master Plan* designates for development lands within the existing wetland areas of or adjacent to New Chicago Marsh, or precludes restoration of the marsh (including removal of unpermitted fill) that would otherwise occur, the implementation of the *Master Plan* would have a significant impact on jurisdictional waters.

- **Implementation of the proposed *Master Plan* could result in significant impacts to jurisdictional Waters of the United States through loss of wetland, aquatic and diked salt marsh habitats. (Significant Impact)**

#### ***Potential Secondary Impacts to the Bay and Baylands***

Development within the *Master Plan Area* has the potential to affect adjoining marshes and associated wildlife species. This potential was noted as a primary constraint in the planning process, and led to planning decisions that limited that potential. The Urban Service Area boundary was set within the historic margins of the Alviso community, and does not include the salt ponds, most of the marshes, or San Francisco Bay. Additional recreational use of the baylands is a possibility, but controls now in place in the San Francisco Bay National Wildlife Refuge should minimize the potential for secondary effects from the potential recreational use increases.

#### ***Potential Secondary Impacts to Coyote Creek and the Guadalupe River***

As noted in the adopted City of San Jose's Riparian Corridor Policy Study, riparian habitat values can be reduced when buildings, impervious surfaces, and landscaped areas are located directly adjacent to riparian corridors. Direct and indirect impacts can include: 1) disturbance to wildlife breeding and/or foraging from excessive noise and/or night lighting, 2) loss of adjacent upland or edge habitat, and 3) introduction of non-native plant and animal species.

Coyote Creek is a cottonwood riparian forest that contains a rich assemblage of plant species optimal for associated wildlife. The creek, the riparian forest, and associated flood control features and riparian revegetation sites are located within large flood control levees that separate the creek from adjacent properties. *Light Industrial* uses are designated adjacent to Coyote Creek in the southeast corner of the *Master Plan Area*. The levees and the associated by-pass channels of the Coyote Creek Flood Control Project provide a partial buffer between the creek and this designated industrial area.

The Guadalupe River contains brackish marsh vegetation which supports associated wildlife. The river is also contained within flood control levees which provide a partial buffer from development of adjacent properties. The *Alviso Master Plan* shows future land uses adjacent to or near the river to be combined industrial/commercial, medium high density residential, general commercial, river commercial, and mixed use. The river commercial uses, in particular, are identified as focusing on the river and intended to combine uses that have a river or water-related orientation.

- **Development in the vicinity of either Coyote Creek, or the Guadalupe River has the potential to significantly impact adjacent riparian habitats. (Significant Impact)**

#### **Water Quality in Wetlands and Aquatic Habitats**

Additional development in the *Master Plan Area* will increase the potential for stormwater runoff to carry a variety of pollutants into the Guadalupe River, Artesian Slough, and New

Chicago Marsh. Development directly adjacent and oriented to the River, and development which intrudes into the marsh would be particularly likely to discharge contaminated runoff into the waterways and wetlands. Urban runoff from pavement and structures often carries grease, oil, dirt, litter, and trace amounts of heavy metals into natural drainages. Runoff from landscaping can carry pesticides, herbicides, and fertilizers. Particulates generated by traffic and construction that are deposited on paved surfaces and carried by runoff into natural waterways will increase sedimentation impacts to the Guadalupe River, New Chicago Marsh and San Francisco Bay. Although the amounts of these pollutants ultimately discharged into the river are unknown, over time they could be substantial. An additional source of contamination for nearby water bodies is windblown dust and litter from parking lots and landscaping.

Significant degradation of the Guadalupe River and the aquatic habitat it provides would reduce the number and diversity of aquatic invertebrate species. In turn, the number and diversity of terrestrial vertebrates which prey on aquatic organisms can be expected to decline. The degradation of the aquatic habitat found in the Guadalupe River could be a significant impact.

- **Contaminated runoff from the future development could contribute to the degradation of aquatic habitat in the Guadalupe River, Artesian Slough, and New Chicago Marsh. (Significant Impact)**

### 3. Mitigation for Vegetation and Wildlife Impacts

#### **General Plan Policies**

The following General Plan policies would provide mitigation for future potential biological impacts:

- *Riparian Corridors and Upland Wetlands Policy #1* - Creeks and natural riparian corridors and upland wetlands should be preserved whenever possible.
- *Riparian Corridors and Upland Wetlands Policy #2* - New public and private development adjacent to riparian corridors should be consistent with the provisions of the Riparian Corridor Policy Study.
- *Riparian Corridors and Upland Wetlands Policy #3* - New development within the Urban Service Area should be set back from the outside edge of riparian habitat (or top of bank, whichever is greater) a distance sufficient to buffer the impacts of adjacent human activities and provide avenues for wildlife dispersal.
- *Riparian Corridors and Upland Wetlands Policy #4* - New development should be designed to protect adjacent riparian corridors from encroachment of lighting, exotic landscaping, noise and toxic substances into the riparian zone.
- *Riparian Corridors and Upland Wetlands Policy #5* - When disturbances to riparian corridors and upland wetlands cannot be avoided, appropriate measures should be required to restore, or compensate for damage to, the creeks or riparian corridors.

- *Bay and Baylands Policy #3* - The City should cooperate with the County, U.S. Army Corps of Engineers, EPA, California Department of Fish and Game, and other appropriate jurisdictions to prevent the degradation of baylands by discouraging new filling or dredging of Bay waters and baylands.
- *Bay and Baylands Policy #4* - The City, in cooperation and, where appropriate, consultation with other interested agencies, should encourage the restoration of diked historic wetlands, including salt ponds, to their natural state by opening them to tidal action.
- *Bay and Baylands Policy #5* - The City should continue to participate in the Santa Clara Valley Non-Point Source Pollution Control Program and take other necessary actions to formulate and meet regional water quality standards which are implemented through the National Pollution Discharge Elimination System Permits and other measures.
- *Bay and Baylands Policy #6* - No development which creates adverse impacts on the National Wildlife Refuge in South San Francisco Bay or results in a net loss of baylands habitat value should be permitted.
- *Species of Concern Policy #1* - Consideration should be given to setting aside conservation areas in the Bay and baylands, along riparian corridors, upland wetlands, and hillside areas to protect habitats of unique, threatened and endangered species of plants and animals, and to provide areas for educational and research purposes.
- *Species of Concern Policy #2* - Habitat areas that support Species of Concern should be retained to the greatest extent feasible.
- *Species of Concern Policy #3* - Recreational uses in wildlife refuges, nature preserves and wilderness areas in parks should be limited to those activities which have minimal impact on sensitive habitats.
- *Urban Design Policy #17* - Development adjacent to creekside areas should incorporate compatible design and landscaping including plant species which are native to the area or are compatible with native species.
- *Urban Design Policy #24* - New development projects should include the preservation of ordinance-sized and other significant trees. Any adverse affect on the health and longevity of such trees should be avoided through appropriate design measures and construction practices. When tree preservation is not feasible, the project should include appropriate tree replacement.
- *Water Resources Policy #8* - The City should establish nonpoint source pollution control measures and programs to adequately control the discharge of pollutants into the City's storm sewers.

### Other Programmed Mitigation Measures

- ❖ Projects proposed within the *Master Plan Area* would have a wetlands evaluation completed to determine if there are wetlands on the site. If there are possible wetlands, a formal delineation and verification by the U.S. Army Corps of Engineers (or other appropriate regulatory agency) would be performed.

Resources and values of wetlands would be evaluated on a case-by-case basis. Unavoidable impacts to wetlands and aquatic habitats, including diked salt marsh, would be mitigated at a minimum ratio of 1:1 (acres impacted/acres replacement habitat created).

- ❖ Specific development proposals on properties adjacent to existing riparian habitat will be evaluated for conformance with design guidelines in the City's adopted *Riparian Corridor Policy Study*.
- ❖ Appropriate surveys for salt marsh harvest mouse will be completed for any sites with salt marsh habitat. In the event salt marsh harvest mice are present, the City will consider requiring redesign of the project to avoid any impact. The first priority would be to maintain existing populations and avoid direct and indirect impacts to salt marsh harvest mouse habitat. Should any loss of habitat or individuals be anticipated, a Federal Endangered Species Act Section 7 or Section 10 permit would be required from the U.S. Fish and Wildlife Service prior to the issuance of a grading permit.
- ❖ In conformance with federal and state regulations regarding protection of raptors, appropriate surveys for Burrowing Owls following California Department of Fish and Game protocols will be completed prior to any development occurring on sites with potential Burrowing Owl habitat.

If surveys confirm that a site is occupied habitat, then additional mitigation measures to minimize impacts to the owls, their burrows and foraging habitat would be completed.

- ❖ Developers of projects greater than five acres in size would file a NOI and Storm Water Pollution Prevention Plan (SWPPP) with the Regional Water Quality Board prior to commencing construction. The SWPPP must address mitigation for both the construction and post construction period. The SWPPP would include erosion and sediment control measures, waste disposal controls, post construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management controls.

Future projects would be required to comply with the NPDES General Construction Activity Storm Water Permit and Municipal Permit requirements administered by the Regional Water Quality Control Board. Prior to construction grading applicant's will file a "Notice of Intent" (NOI) to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP) which addresses measures that



would be included in the project to minimize and control construction and post-construction runoff. Measures included in the SWPPP could include:

- Preclude non-storm water discharges to the storm water system.
  - Perform monitoring of discharges to the storm water system.
- ❖ Development projects will comply with the City of San Jose Grading Ordinance, including erosion- and dust-control during site preparation and with the City of San Jose zoning ordinance requirement for keeping adjacent streets free of dirt and mud during construction. Construction practices will include use of stabilized construction entrances and/or wash racks, street sweeping, use of erosion control devices including straw bales and/or silt fences, and storm drain inlet protection to minimize contamination of storm water runoff.

**Conclusion:** Implementation of the General Plan policies and Programmed Mitigation Measures will reduce most potential impacts to vegetation and wildlife in the Alviso area resulting from implementation of this *Master Plan* to a level of nonsignificance. In the absence of a designation of replacement habitat for loss of diked salt marsh and potential degradation of New Chicago Marsh, and for the loss of Burrowing Owl habitat, the *Master Plan* would have significant unmitigated impacts.

#### **Mitigation Measures to be Considered at the Time of Future Development**

##### ***Burrowing Owl Mitigation***

The City of San Jose's goal with respect to Species of Concern is to preserve habitat suitable for Species of Concern, including threatened and endangered species. The Burrowing Owl, while not yet threatened or endangered, is a species of concern and federal candidate species (category 2), and the Alviso Master Planning Area contains a relatively large concentration of the species.

The following mitigations, in line with City policies, could be considered at the time of future development.

- Any development which would result in a loss of Burrowing Owl habitat could be required to provide for an equivalent amount of habitat elsewhere. This could consist of a direct provision of land and/or a contribution to an established Burrowing Owl habitat restoration program. Both the City of San Jose and the State Department of Fish and Game are presently engaged in regional studies to identify appropriate habitat protection programs for Burrowing Owls.
- Surveys to determine if Burrowing Owl habitat is present and/or Burrowing Owls are foraging or nesting on or adjacent to a project site, could be conducted as part of CEQA review. If surveys confirm that a site is occupied habitat, then additional mitigation measures to minimize impacts to the owls, their burrows and foraging habitat could be included in the proposed project.

Since many areas within Alviso have been sporadically occupied by Burrowing Owls, construction activities within areas of suitable habitat should be preceded by pre-construction surveys for Burrowing Owls by a qualified ornithologist, even if prior surveys did not detect owls. If owls are not located during the preconstruction survey, no additional action is warranted.

Construction activity in the vicinity of a known nest should avoid the nesting season, if possible. If owls must be moved from a development site, passive relocation should be attempted first, if appropriate habitat exists nearby. Trapping and relocation of the owls is also a suitable avenue to prevent take of the nests. These activities require supervision of a qualified biologist with approval of both CDFG and the USFWS.

- Consideration could be given to setting aside conservation areas to protect the habitat of the Burrowing Owl. Potentially suitable areas already exist in portions of the Public Park/ Open Space Areas of the *Master Plan Area*. However, these areas alone would not be sufficient to preserve all the Burrowing Owls that now occur within the developable areas of the Alviso area. Additional areas within the WPCP buffer zones, within Private Space or Public/Quasi Public land use areas could also be given consideration for use as Burrowing Owl habitat. These areas would need provisions for suitable burrows, and long-term land management appropriate for the owls.

### ***Water Quality***

To address long term quality of runoff from developed areas, the City will ensure that specific developments consider the inclusion of permanent water quality measures in project design, including:

- Implementing regular maintenance activities (i.e., sweeping, litter control) at the site to prevent soil and litter from accumulating on the project site and contaminating surface runoff.
- Directing stormwater flow from the site into vegetated swales, storm drain inlet filters (oil/water filter, fossil filter, etc.) or settlement basins could be used to limit contamination of urban runoff. If storm drain inlets are used, development sites will be required to clean on-site inlets manually or by a vacuum truck before October 15 on an annual basis.
- Constructing the paved areas of materials other than asphalt, if feasible. If construction with other materials is infeasible, the paved areas would be designed to permit the maximum amount of stormwater to penetrate subsoils.

## E. PUBLIC HEALTH AND SAFETY

The following section addresses potentially significant health and safety hazards in the *Master Plan Area* associated with hazardous materials, electric and magnetic fields from existing high voltage power lines, and bioaerosols.

A review of hazardous materials use and potential issues of concern in the *Master Plan Area* was completed, including a search of government databases by VISTA Environmental, Inc. (see Appendix D). The purpose of this review was to identify and evaluate the environmental setting and history of the *Master Plan Area*, and review information regarding spills or contamination within the area. Locations within the *Master Plan Area* which are known or suspected to have soil or groundwater contamination from hazardous materials were identified based upon a review of federal and state databases that track hazardous waste use and transportation, and list reported spills or contamination incidents. The Santa Clara Valley Water District Fuel Leak Activity Reports and City of San Jose Fire Department files were also reviewed.

Businesses that would be likely to use and/or store significant quantities of hazardous materials were identified based upon City records of current businesses and Fire Department files. City of San Jose Fire Department files included records of inspections, spills and hazardous materials management plans (HMMPs) for existing and past businesses.

The discussions on electric and magnetic fields (EMF) and bioaerosols were prepared based upon information compiled by *Thomas Reid Associates* and *David J. Powers & Associates, Inc.*

### 1. Existing Setting

#### **Hazardous Materials**

This discussion about use and/or contamination by hazardous materials should only be considered as a general overview. Such conditions will, by their nature, change continually over time. New businesses using different chemicals will move in and old businesses move out. New spills or leaks may occur, and past contamination will be cleaned up.

The *Alviso Master Plan Area* has historically included land uses such as agriculture, housing, shipping, a railroad, landfills and dumps, oil storage, auto repair, trucking operations, and light industry. Hazardous materials which would have commonly been associated with these and other specific categories of historic and current land uses are listed in Table 8, below.

Previous and existing land uses that may have involved the use, storage, disposal or handling of hazardous substances include agriculture, auto and boat repair and painting, construction and landscape maintenance yards, landfills, metal working, trucking operations and railroad lines. In addition, the WPCP, located east of the residential areas of Alviso, handles chlorine and sulfur dioxide, which are on Federal and State lists of regulated toxic substances for accidental release prevention.

**TABLE 8**  
**Land Uses And Commonly Associated**  
**Hazardous Materials**

<b>Land Use</b>	<b>Hazardous Materials Commonly Used or Associated with Land Use</b>
Agricultural (including greenhouses)	Pesticides, herbicides, underground storage tanks for fuel storage, household waste, illegal dump sites
Auto Body Repair and Painting	Fuels, oils, solvents, heavy metals, fuel oils, thinners, welding/cutting gases
Auto Repair and Salvage	Fuels, oils, solvents, asbestos from brake pads
Boat Yards	Fuels, oils, solvents, paints, heavy metals, fuel oils, thinners, welding/cutting gases
Concrete and Masonry Plants	Fuels, oils, solvents for machinery maintenance
Construction Yards	Fuels, oils, solvents, paints, heavy metals, fuel oils, thinners
Foundries	Heavy metals, possible poly-nuclear aromatics, dioxins, furans
Gasoline Stations	Fuels, oils, solvents
Landscape Maintenance Yards	Fuels, oils, pesticides and herbicides
Lumber Mills and Yards	Fuels, oils, solvents, heavy metals, pentachlorophenol, creosote
Machining, Metal Working	Fuels, oils, solvents, acids
Miscellaneous Manufacturing	Fuels, oils, solvents
Painting	Paints, solvents, heavy metals
Pest Control	Pesticides, herbicides, heavy metals
Railroad	Fuels, oils, solvents
Transformers	Oils, polychlorinated biphenyls (PCBs)
Trucking	Fuels, oils, solvents

Lands used for agricultural production, including greenhouses, may contain residual concentrations of agricultural chemicals, such as pesticides and herbicides. In other areas of San Jose, concentrations have been found on agricultural lands which exceed Federal or State action levels. The most likely sources of contamination are heavy metal-based and organochlorine pesticides. In addition to potential contamination associated with agricultural chemical use, underground or above-ground storage tanks used for the storage of gasoline and diesel may be present within the *Master Plan Area*. Garbage disposal pits and unregulated dumping areas (as well as other current land uses) may also be present on sites currently or formerly used for agricultural purposes.

Auto repair facilities, construction yards, boating-related facilities, and trucking operations within the *Alviso Master Plan Area* also use and store oils, fuels, paints, and solvents. A number of these facilities also use fuel storage tanks for service vehicles. Auto repair and metal working facilities use and store compressed gases, such as acetylene, for welding.

Historically, lead-containing paints were used on boat hulls to retard barnacle and algae growth. Residual concentrations of these toxic paint products may be present in or adjacent to harbor areas and boat repair facilities within the *Master Plan Area*. The former Bayside Cannery on Elizabeth Street is another historical use in the area. The cannery may have used chlorinated hydrocarbons such as DDT for pest control. If such materials were applied to or spilled on surface soils, contamination may have occurred.

Railroad-related activities within the *Master Plan Area* may have resulted in unreported contamination from fuels and other compounds being spilled or dumped onto railroad right-of-way during the course of normal operations.

The WPCP uses chlorine for wastewater disinfection and sulfur dioxide to remove any residual chlorine remaining in the wastewater prior to its discharge into San Francisco Bay. These compounds are classified as acutely hazardous materials in Title 40 of the Code of Federal Regulations. Both chlorine and sulfur dioxide are delivered to the WPCP in rail cars via a rail spur from the Southern Pacific main line. Chlorine is typically delivered in 85 or 90 ton rail cars while sulfur dioxide is normally delivered in 90 ton rail cars. The WPCP also has underground fuel storage tanks.

In addition to the general land uses described above, there are several specific historic issues of concern in the *Alviso Master Plan Area* related to hazardous materials. These issues include asbestos contamination in fill materials and potential hazards associated with undocumented dump sites.

In the discussion below, individual properties are referred to by their listing in governmental databases, which are all public records. The listings may be based on defunct business operations or other historic conditions. The titles are used in this report only to ensure consistency with existing public records.

### ***Reported Contamination Incidents***

Various lists and databases were reviewed to identify any spills or contamination incidents reported within the *Master Plan Area*. These lists include what are considered to be



“active” sites. Some of them may have actually been remediated, but the databases have not been updated. The following databases and governmental records were searched (numbers listed are from Table 9 and refer to sites shown on Figure 19):

National Priorities List (NPL) NPL is the Environmental Protection Agency (EPA) database of uncontrolled or abandoned hazardous waste sites identified for priority remedial action under the Superfund Program. There is one NPL site, the South Bay Asbestos Area (#1), within the *Alviso Master Plan Area*.

CERCLIS List The CERCLIS List is a compilation by the EPA of the sites EPA has investigated or is currently investigating for a release or threatened release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation & Liability Act of 1980 (CERCLA or Superfund Act). There are six sites (#1,2,4,6,15,16) on the CERCLIS List in the *Master Plan Area*.

Emergency Response Notification System (ERNS) The ERNS is a national database used to collect information on reported accidental release of oil and hazardous substances. The database contains information from spill reports made to Federal authorities including the EPA, the U.S. Coast Guard, the National Response Center, and the Department of Transportation. Within the *Master Plan Area*, spills have been reported on the Guadalupe River near the Gold Street Bridge and at the WPCP (#3,14).

State Priority List (SPL) The California EPA, Department of Toxic Substances, maintains an inventory of facilities subject to investigations concerning likely or threatened releases of hazardous substances from those facilities. Annual Work Plan (AWP) sites and sites where Preliminary Environmental Assessments are a high priority are included. The South Bay Asbestos Area (#1) is listed on the SPL in the *Master Plan Area*.

Leaking Underground Storage Tanks (LUST) Information System The California EPA maintains an inventory of leaking underground storage tanks. There are 9 sites (#5,7,8,9,10,11,12,13,14) listed in the LUST Information System within the *Master Plan Area*.

Solid Waste Landfills, Incinerators, and Transfer Stations (SWLF) The Integrated Waste Management Board maintains an inventory of solid waste landfills and associated sites. The March 1993 listing included three sites within the USA; the Zanker Road (Nine Par) Landfill (#15), the closed Marshland Solid Waste Facility (#2), and the Owens-Corning Landfill (#16) located north of Los Esteros Road. The Nine Par, Marshland, and Owens-Corning facilities are also on the CERCLIS List.

Santa Clara Valley Water District (SCVWD) Fuel Leak Site Activity Report (as of 3/94) The SCVWD maintains an inventory of all reported fuel leak sites in Santa Clara County. Some of the sites on this inventory are being remediated under the direction of the SCVWD, while others are being remediated under the direction of the California Regional Water Quality Control Board (RWQCB). The seven sites (#5,7,8,9,10,12,14) on the SCVWD Fuel Leak Activity Report located within the Alviso area also appear on the LUST Information System list.

**TABLE 9**  
**List of Recorded Contaminated Sites Within The Alviso Master Plan Area**

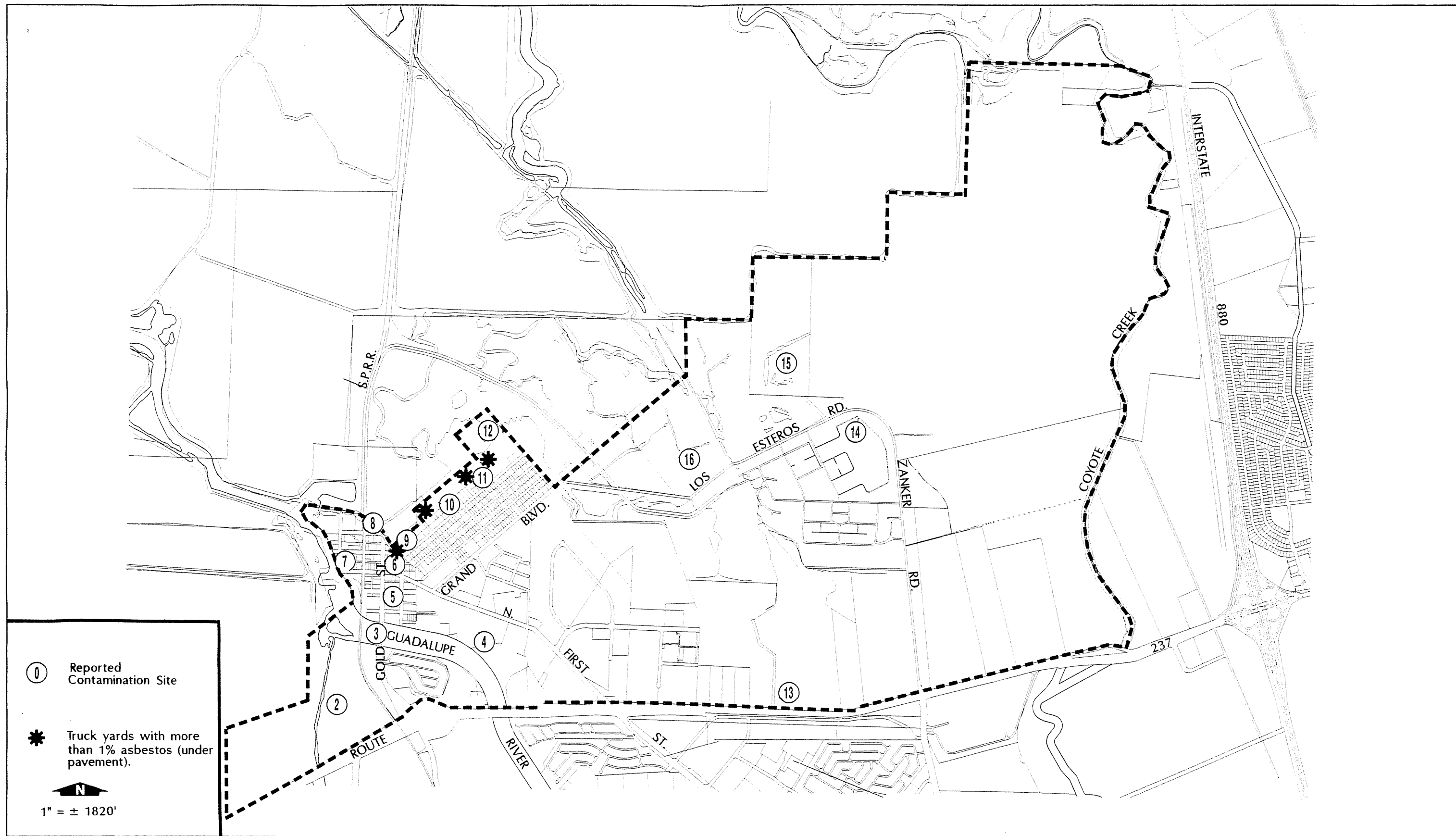
Site Number	Site Name	Site Address	Database(s)
1	South Bay Asbestos Area	Foot of Liberty Street Guadalupe River	NPL, CERCLIS, SPL
2	Marshland Solid Waste Facility	NW SR 237 and Gold Street	CERCLIS, SWLF
3	Unknown	Guadalupe River at Gold Street Bridge	ERNS
4	Santos Landfill	Santos Property east of Guadalupe River	CERCLIS
5	San Jose Fire Station #25	1590 Gold Street	LUST, SCVWD
6	Alviso Independent Oil	1110 Taylor Street	CERCLIS, SJFD
7	Acme Building Maintenance	941 Catherine Street	LUST, SCVWD
8	City of San Jose Pump Station	3519 Gold Street	LUST, SCVWD
9	WSP Trucking	1200 State Street	LUST, SCVWD
10	Rebar Spacer Block Company	1400 State Street	LUST, SCVWD
11	WSP Trucking	Pacific and State Streets	LUST
12	W.D. Smith Trust	800 Spreckles Avenue	LUST, SCVWD
13	Cilker Orchard #3	1595 Milpitas Alviso Road	LUST
14	San Jose/Santa Clara WPCP	700 Los Esteros Road	LUST, (ERNS), SCVWD
15	Nine Par Dump	Los Esteros Road	CERCLIS, SWLF
16	Owens-Corning Landfill	Los Esteros Road	SWLF, CERCLIS

Note: All sites are shown on Figure 18.

NPL = National Priorities List  
 ERNS = Reported accidental releases  
 SWLF = Solid Waste Landfills

CERCLIS = EPA Investigation  
 LUST = Leaking Underground Storage Tank

SPL = State Priority List  
 SCVWD = Santa Clara Valley Water District



REPORTED HAZARDOUS MATERIALS CONTAMINATION SITES

FIGURE 18

Other databases searched as part of this review include the Federal RCRA (Resource Conservation & Recovery Act) program, which tracks facilities that generate, transport, treat, store, or dispose of hazardous waste. The California Underground Storage Tank (UST) registration database was also searched. Sites that are listed in these databases include a variety of businesses such as gas stations, auto repair facilities, and pest control companies. These sites are not listed in this section since there is no evidence to indicate the presence of hazardous materials contamination. These listings were used in association with City Fire Department records to characterize the type of land uses using hazardous materials within the *Master Plan Area*. The listings from these databases are available at the offices of the City of San Jose Department of Planning, Building, and Code Enforcement.

At the time of the hazardous materials database search (December, 1994), contamination had been reported on 16 sites in the Alviso area.<sup>16</sup> These 16 sites are listed in Table 9 and are shown on Figure 18. Nine of the 16 sites are also listed on the inventory of leaking underground storage tanks. The SCVWD Fuel Leak Site Activity Report lists the WPCP as a site that has completed remediation for a leaking fuel tank.

### ***South Bay Asbestos Superfund Site***

A portion of the *Alviso Master Plan Area* lies within the South Bay Asbestos Area, an EPA Superfund site. Asbestos contamination within the *Master Plan Area* was found in two forms: friable asbestos from construction and demolition debris deposited in unregulated dumps, and naturally occurring chrysotile asbestos in serpentine rock used in construction of a ring levee, built after flooding of the area in 1982 and 1983. The levee material containing asbestos-bearing rock has subsequently been removed and replaced with clean fill materials.

Asbestos levels in the South Bay Asbestos Area continue to be monitored under an agreement between the City, EPA, and the Raisch Company. In a 1987 study, ambient air was sampled and asbestos levels were not significantly higher than those found in other metropolitan areas, although measured levels increased near unpaved trucking yards along State Street. Soil samples were taken in trucking yards and other areas of Alviso in 1991. Four truck yards were found to contain soil materials with greater than one percent asbestos. The EPA required that areas within these truck yards be paved and inspected on a routine basis. All four trucking operations have been paved to prevent asbestos in underlying soils from becoming airborne due to excessive disturbance from vehicle traffic. The four trucking sites are shown on Figure 18.

Three former landfill/dump areas, the "Marshland", "Santos", and "St. Claire Corporation" Landfills<sup>17</sup>, have been identified by EPA as having received asbestos wastes from an asbestos cement pipe manufacturing plant that was in operation from 1953 to 1982. The Santos and

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<sup>16</sup>The South Bay Asbestos Superfund Site has been counted as one site although there are several truck yards and former landfills identified as containing asbestos within the area.

<sup>17</sup>The Marshland Landfill (#2) is located west of Gold Street and the Guadalupe River. The Santos Landfill (#6) is located east of the Guadalupe River and south of North First Street. The Sainte Claire Corporation Landfill (not mapped) is located north of the Guadalupe River between the Southern Pacific rail line, Liberty Street, and Moffat Street (EPA, August, 1992).

St. Claire Corporation Landfills have been sampled for asbestos. Requirements to prevent the potential release of asbestos into the air from dumped waste piping and asbestos materials for these landfills include: 1) a six inch clean cover cap of fill under vegetation; or 2) a two foot clean cover cap if unvegetated. All landfill site caps were found to be adequately clean in 1991 with levels of asbestos less than one percent. The Marshland Landfill, located near Gold Street and SR 237, has been formally closed under State of California regulations, which are more stringent than the capping requirements to prevent asbestos releases.

### ***Former Landfill Areas***

Reported disposal sites are shown in Figure 18. Boundaries of these sites are approximate; there also may be other unknown dump sites not shown on this map. In addition to the potential hazards from friable asbestos in construction and demolition debris, undocumented dump sites may contain other hazards. Former dump sites may contain materials such as contaminated soil, construction debris (including asbestos), and refuse. Since records of fill were not kept for many of the older dump sites in the Alviso area, the possibility exists for the production of methane gas, and potential contamination with organic compounds and heavy metals. Other geotechnical hazards from undocumented dump sites are also discussed in Section II. C., Geology, Soils, and Seismicity.

Decomposing organic materials can result in the release of landfill gases, which are primarily methane. Landfill gas is produced naturally by the aerobic and anaerobic bacterial decomposition of organic refuse. For any particular refuse cell, decomposition and gas generation typically reach a peak after about two years. This is followed by a period of steady state conditions and then a slow decline in gas generation. After 60 years, gas generation for the landfill as a whole decreases rapidly, as the various cells are depleted.

Landfill gas leaves the filled area by two methods; surface emission and subsurface migration. In the first instance, it can be emitted through the landfill cover, especially the side slopes, if the land surface is raised above the surrounding grade. Landfill gas is also able to move through porous soils beneath or adjacent to the landfill. Landfill gas presents a potential for explosion from the presence of methane and a health hazard from exposure of workers and others to toxic components, including cancer-causing agents. Potential gas intrusion from landfill sites can result in methane concentrations under buildings and in utility vaults and trenches, which can build up to hazardous levels if unvented. It also constitutes a significant source of carbon dioxide, a greenhouse gas.

Limited concentrations of refuse and asbestos cement pipe fragments were found during testing of the Summerset Mobile Estates and Alviso Technology Park sites adjacent to Gold Street (EMCON, 1994, EPA, 1994, CET Environmental Services, 1997). Although some asbestos pipe fragments were found in the soil, friable asbestos fibers that are considered hazardous were not present. In former landfill sites, asbestos may be encountered as contaminated soil (greater than 1% asbestos) or suspected asbestos containing materials, such as transite pipe. Extensive soil testing on the adjacent Alviso Technology Park site conducted in 1996 found only traces (<1%) of asbestos in three of 47 samples taken on that property, from depths ranging from two to 15 feet. In some localized areas, heavy metals may also be present in the soil. These concentrations are only relevant to that particular



property. The EPA anticipates that some restrictions will be placed on excavations at these sites to maintain the integrity of the soil cover<sup>18</sup>.

### ***Hazardous Materials Regulations for Industrial and Commercial Uses***

The use, storage, transport, and disposal of hazardous materials is regulated by a number of local, state and federal regulations. Several programs and regulations that safeguard public health from potential adverse impacts due to emissions of toxic air contaminants may have an influence on operation of industrial sites within the *Master Plan Area*, including the WPCP. The major focus of these regulations has been the risks associated with locating facilities that use, transport, and store acutely hazardous materials near sensitive populations.

State regulations, locally administered by Santa Clara County and the Bay Area Air Quality Management District, limit siting or require special plans for facilities which store, handle and emit certain hazardous materials in quantities which exceed thresholds set in Section 25536 of the State of California Health and Safety Code. The Public Resources Code (Section 21151.4) requires written notification and consultation with a school district before approval of an EIR or Negative Declaration for construction or alteration of a facility involving reasonable anticipation of air emission or handling of acutely hazardous materials within one-quarter mile of a school. Industrial users may also be required to notify local school districts prior to obtaining a Hazardous Air Emission Permit under the Health and Safety Code (§ 42301.7). This code requires an applicant for a hazardous air emission permit to distribute a public notice of the permit application to parents or guardians of children enrolled in any school (K-12) within one-quarter mile, and to each address within a radius of 1,000 feet.

### **Bioaerosols**

In addition to their other activities, two currently operating landfills in the Alviso Study Area are permitted for compost operations: Newby Island and Zanker Road. The Owens-Corning Landfill does not presently have composting activities onsite, although an application to allow green waste composting at Owens-Corning is on file with the City. The following discussion addresses the issue of potential health hazards associated with compost bioaerosols from compost operations within or adjacent to the *Alviso Master Plan Area*.

Compost contains microbial organisms which digest and recycle organic matter into a soil-like product. These organisms include bacteria and fungi which are common in both the indoor and outdoor environment, and which can flourish in compost. The bacteria and fungi can be inhaled by humans and may cause an allergic reaction or, in rare cases, serious infection. Because the exposure pathway involves small particles suspended in the air, and because the agents are biologically active, these organisms or their cellular components and by-products are called "bioaerosols". Exposure to these bioaerosols may be increased by proximity to compost facilities; this could potentially result in health impacts to populated areas near these facilities.

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<sup>18</sup>Eric Yunker, EPA, personal communication.

Compost bioaerosols include microorganisms (i.e., actinomycete, bacteria, and fungi), arthropods, protozoa, and organic constituents of microbial and plant origin. Of all compost bioaerosols of major concern in studies of sludge, municipal waste and yard waste composting, *Aspergillus fumigatus* (a fungus), is the bioaerosol predominantly mentioned in conjunction with composting.

The bioaerosols found in compost are also found in a wide variety of organic materials, including yard waste, food and household waste, potting soil, and leaf litter. Some compost bioaerosols, such as *Aspergillus fumigatus*, are also commonly found in basements, hospitals, crawl spaces, refrigerators, bathrooms, bedding material, and house dust.

Physical responses after inhaling bioaerosols depend on the health of the individual and the amount inhaled. Bioaerosols are routinely inhaled, and most healthy persons show no adverse response. If a large dose of bioaerosol were inhaled, a healthy person's response could range from no symptoms to watery eyes and runny nose to flu-like symptoms. The immune system would react and there would be no long-term adverse health effects. Currently there are no data on what size of dose causes a response; it depends on the person's health and immune system. Persons with pre-existing disorders and weakened immune systems are generally more susceptible to an invasive systemic reaction after inhaling bioaerosols. The general population has not exhibited an epidemic-level response to being exposed to these organisms.

The issues associated with compost bioaerosols have been studied for several years. Recent studies synthesize the results of nearly two decades of investigation, and apply current knowledge to sites such as those located in the Alviso area. These studies were done by Federal, State, and local governments agencies.

Issues involving compost bioaerosols have been investigated by the Federal Government since at least 1976. In 1992, Dr. Patricia Millner of the U. S. Department of Agriculture (USDA) convened a workshop with 25 scientists and engineers involved with studies on bioaerosols to determine if compost facilities pose a significant public health risk. The participants included staff of the U. S. Environmental Protection Agency (EPA), U.S. Department of Agriculture, National Institute of Occupational Safety and Health (NIOSH), the New York State Department of Health, and independent scientists. A report of the group's consensus review of the issues and facts was subsequently published. The results reflect the most current analysis of compost bioaerosol issues by experts in the field. Several conclusions reached by the working group included:

- The general population is not at risk to systemic (i.e., whole body, generalized, as in circulatory, lymph, etc.) or tissue infections from compost-associated bioaerosol emissions.
- Immuno-compromised individuals are at increased risk to infections by various opportunistic pathogens, such as *A. fumigatus*, which occurs not only in compost but also in other self-heated, organic materials normally present in the natural environment.

- Asthmatic and "allergic" individuals are at increased risk to responses from bioaerosols from a variety of environmental and organic dust sources, including compost. The amounts of airborne allergens that sensitize and subsequently incite asthmatic or allergic episodes cannot be defined with current information available, especially given the wide variation in host sensitivity, the numerous sources of natural environmental exposure, and the diversity of constituents and bioaerosols.
- Occupational exposure to bioaerosols on composting sites may be significant, depending on the circumstances at the site, operational characteristics, and worker proximity. Compost site workers are clearly more exposed to compost bioaerosols than are the surrounding populations. However, worker populations at such facilities thus far have not shown any significant differences in overall body or respiratory fitness as compared to non-exposed persons.
- Because of continuing public concern, and because of the wide range of potential respiratory responses to organic dusts, additional study would be helpful to further verify this apparent lack of adverse health impact from composting facilities.

An advisory bulletin to local agencies prepared by the California Integrated Waste Management Board titled *Aspergillus, Aspergillosis, and Composting Operations in California* (December 16, 1993) provides information on *Aspergillus fumigatus* and its life history. The bulletin also describes the potential health risks and health effects, the presence of *Aspergillus fumigatus* spore concentrations in ambient air and at composting operations, an overview of current composting regulatory requirements, and suggested operating practices to limit the production of airborne fungal spores. The advisory concludes that a properly operated compost facility should not normally present an elevated health risk if the best management practices are followed.

Locally, the Santa Clara County Health Officer convened a medical advisory panel in early 1994 to determine the expected risk to the community from aspergillosis if composting occurred at the Guadalupe Landfill located in southern San Jose. Recommendations were developed to ensure that composting operations at this landfill would not adversely affect the safety of the community. In analyzing the issue, the panel gathered information from experts in fields of infectious diseases, allergy, waste management, and the association between bioaerosols and composting.

The report issued by the Medical Advisory Panel examined the association between symptoms, aspergillosis and composting, and makes recommendations for reducing risk and for monitoring. They found that testing positive for serum IgG to *Aspergillus* showed only evidence of exposure to aspergilli, but could not be used alone to determine the presence of disease or aspergillosis and that complete avoidance of exposure to aspergilli cannot be achieved because the organism is widely present in the human environment.

Based on previous studies, the Medical Advisory Panel cited exposure levels that may result in respiratory disease or an allergic response. Exposure to *Aspergillus fumigatus* spores in even low concentration may result in disease among severely immuno-compromised persons. Exposure to high doses of *Aspergillus fumigatus* (levels greater than  $10^9$  spores per

square meter) can result in acute hypersensitivity pneumonitis and exposure to 100-3,000 spores per square meter can elicit an allergic response in previously sensitized persons.

The Medical Advisory Panel Report recommends that the State Department of Health Services (DHS) indicate what type of monitoring would be suitable for composting operations. In response, the State DHS has indicated that air particulate monitoring would be more effective in determining if site activities are increasing particulate emissions, including compost bioaerosols, than to monitor for one specific type of bioaerosol.<sup>19</sup>

In conclusion, compost bioaerosol microorganisms are common in the environment and compost facilities are not an isolated source of bioaerosols. Properly operated compost facilities would not significantly raise ambient levels of compost bioaerosols, except in the immediate vicinity (within 500 feet) of a facility during active yard waste/compost handling. The areas within 500 feet of an existing composting operation are shown for the *Master Plan Area* on Figure 19.

## EMF

### *Background*

The following section discusses health hazards associated with the existing high voltage (115 kilovolt) electric transmission lines which traverse the *Alviso Master Plan Area*.

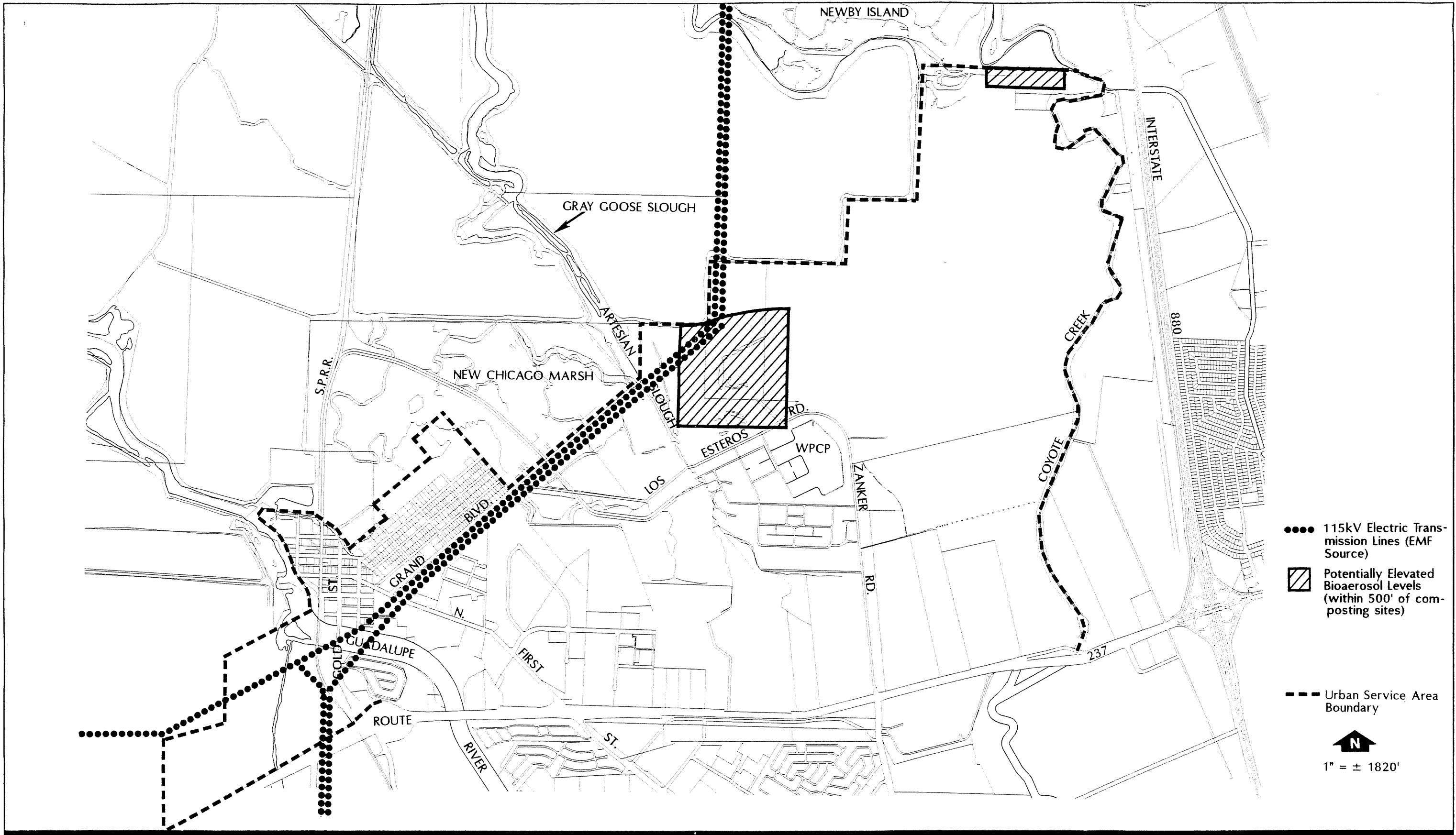
Electric current traveling in transmission lines produces both electric and magnetic fields, and some studies have found an association between exposure to electric and magnetic fields and health problems. In recent years there has been considerable controversy regarding the potential health effects resulting from long-term exposure to electromagnetic fields (EMFs). While EMFs occur naturally and are present in everything from visible light to radio waves to X-rays, attention has focused on whether exposure to EMFs associated with alternating current electricity is hazardous.

EMFs are generated by home appliances, televisions, video display terminals, office equipment, industrial machinery, and household wiring, as well as electric transmission and distribution lines. The strength of an EMF is dependent upon the amount of current flow; the more power being consumed, the stronger the EMF. The electric field strength component of EMF falls off dramatically with distance, and many objects, including trees and houses, shield the public from electric fields. The magnetic field component of EMF is produced as a result of the movement (current) of electricity through a conductor. As with electric fields, magnetic field strength decreases dramatically with distance from the source; however the magnetic field component passes through most materials, and magnetic fields cannot be effectively shielded.

Most health-related research has focused on the potential hazards associated with the magnetic field component of EMFs. Magnetic fields are measured in units of milligauss (mG). The strength of a magnetic field diminishes substantially as one moves away from the

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<sup>19</sup>Dr. Raymond Neutra, DHS, letter to Martin Fenstersheib, Santa Clara County Health Department, July 1, 1994.



- 115kV Electric Transmission Lines (EMF Source)
- ▨ Potentially Elevated Bioaerosol Levels (within 500' of composting sites)
- Urban Service Area Boundary
- N  
1" = ± 1820'

EMF AND BIOAEROSOL SOURCES

FIGURE 19



source of the EMF. For example, at a distance of 1.2 inches the strength of the magnetic field from a hair dryer can range from 60 to 20,000 mG, while at 12 inches the strength of the field drops to between 1 and 70 mG.

There have been hundreds of studies on the subject of health effects associated with long-term exposure to extremely low frequency (ELF) EMFs. Studies have shown a *potential* link between chronic exposure to ELF EMFs and cancer. Some studies indicate that there may be health risk associated with long-term exposure to EMFs with strengths as low as 1 to 5 mG. According to an American Planning Association report<sup>20</sup>, "current thinking holds that EMFs are cancer promoters rather than cancer initiators: they may not cause cancer or alter DNA directly, but rather accelerate the growth of tumors." However, it is critical to note that the EMF-cancer link has not been proven and that further studies are underway. Scientists to date have found no threshold value, dose-response, or causative relationship that demonstrates evidence of any adverse physical effect from EMF.

The National Council on Radiation Protection has published draft recommendations on EMF Exposure Guidelines.<sup>21</sup> The report accompanying the guidelines notes that planned development may avoid economic impact and suspected health hazards by incorporating safety guidelines for future planning. These guidelines include: 1) not building new day care centers, schools, and playgrounds where 60 Hz magnetic fields exceed 2 mG<sup>22</sup>; and 2) not building new housing in proximity to high voltage transmissions lines where ambient field levels exceed 2 mG for longer than two hours per day. For new office and industrial environments, the report recommends that design considerations aim to reduce intermittent and ambient exposures to a 2 mG level, over the spectrum from near-zero to 3.0 kHz.

The City of San Jose does not have any setback requirements in place. The only statewide mandate of any kind that has been established are the State of California School Siting Rules. The policy requires that schools be sited a minimum of: (1) 100 feet from the right-of-way edge of a 100/115 kV line; (2) 150 feet from the right-of-way edge of a 220/230 kV line; and (3) 250 feet from the edge of the easement of any 345 kV and higher voltage transmission line.

#### *Master Plan Area*

There are two parallel PG&E transmission lines (two circuits each) in the *Master Plan Area* (see Figure 19). The Newark-Scott #1 and #2 line and the Newark-Kifer/Newark-San Jose B lines are each rated at 115 kV. Both lines originate at the Newark Substation, and proceed to different substations south of Alviso. The lines enter the north central portion of the *Alviso*

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<sup>20</sup>This discussion is based, in part, upon information contained in the APA report titled "Electromagnetic Fields and Land Use Controls", Planning Advisory Service Report Number 435, APA, December, 1991.

<sup>21</sup>"NCRP (National Council on Radiation Protection) Draft Recommendations on EMF Exposure Guidelines", Microwave News, July/August 1995.

<sup>22</sup>The National Council on Radiation Protection Guidelines express magnetic field strength in microTeslas. One microTesla is equivalent to 10 mG.

*Master Plan Area*, in the vicinity of the WPCP, and travel in a southwesterly direction, and leave the *Master Plan Area* at SR 237. Existing land uses along the route include open space/wetlands, sloughs, residential and commercial development and arterial roadways.

On January 10, 1995, Pacific Gas & Electric (PG&E) prepared a magnetic field profile for the area in the vicinity of Grand Boulevard and Wilson Way. Magnetic field strength was measured using an EMDEX II portable, hand-held, three-axes meter. The meter records magnetic field intensities (at power line frequencies) versus time and distance. Spot readings were collected every 1.5 seconds.

The Wilson Way location was determined by PG&E to be the most representative of the area; it is also within the vicinity of existing sensitive receptors. Measurements were taken on a transect along Wilson Way extending roughly from the Newark-Scott #1 transmission line (the northernmost line) to Alviso Park. The profile was from a point mid-way between the transmission towers. Results indicated that magnetic field levels were 27 mG under the Newark-Scott #1 transmission line. Magnetic fields decreased to 3.0 mG and 2.0 mG at distances of 100 feet and 150 feet from the second transmission line (Newark-San Jose B). In front of Alviso Park, the magnetic field level was 1.0 mG.

## **2. Public Health and Safety Impacts**

### **Thresholds of Significance**

For the purposes of this project, a public health and safety impact is considered significant if the project will:

- expose the public to a significant risk associated with the storage, use and/or disposal of hazardous materials or from existing hazardous materials contamination; or
- pose a health or safety hazard to people or animal or plant populations.

### **Hazardous Materials Impacts**

Hazardous materials constraints within the Alviso area are related to both historic and current land uses. Past land uses have resulted in the contamination of some sites with fuels, asbestos, and possibly heavy metals or agricultural chemicals. Current and future industrial uses have the potential to release hazardous and acutely hazardous materials into the environment during their use, storage, transport, disposal or handling within the *Alviso Master Plan Area*.

#### ***Contaminated Sites (including the South Bay Asbestos Superfund Site)***

The existence of several contaminated sites, the types of historic industrial uses, and the length of time these uses have been present, all indicate that the older, westerly part of the town of Alviso is more likely to have hazardous materials contamination than the newer residential areas. Careful examination of proposed development sites for evidence of contamination will be necessary where hazardous materials may have been used in order to

determine the suitability of the property for redevelopment. If contamination is found, cleanup of some sites may be required prior to site development or redevelopment. Sites that are contaminated can usually be remediated, although the expense of remediation can discourage redevelopment of particular properties for sensitive uses such as residential or child care facilities.

Within the South Bay Asbestos Area, development of areas that have received asbestos wastes or contain high levels of asbestos in fill materials, could result in the release of airborne asbestos if landfill caps or paving are disturbed or removed. The EPA is considering seeking deed restrictions on sites that have formerly received asbestos wastes. The purpose of these deed restrictions would be to ensure that these identified areas are not disturbed in the future.

A portion of the *Master Plan Area* has historically been used for agricultural purposes and it is likely that pesticides and/or herbicides have been applied to these sites. Sites used for agricultural purposes may have high residual concentrations of organochlorine pesticides, automotive lubricants, and compounds made from toxic metals. Greenhouse operations are more likely to have higher residual concentrations of these agricultural chemicals, since greater quantities of pesticides are used. Existing greenhouses are present in the southeastern section of the *Master Plan Area*, in an area designated for *Light Industrial* uses.

#### ***Impacts from Development on Former Landfills***

Development of areas formerly used as landfills could result in hazardous materials impacts, including the release of flammable methane gas under structures, the potential for elevated concentrations of organic compounds in landfill gases, and heavy metals contamination. Construction on former landfills may also expose construction workers to hazardous materials, including asbestos, that may be present. Extensive analysis, including soils testing and air quality monitoring, would be warranted for any proposed development on a former landfill and for any site on which refuse or unpermitted fill has been placed.

#### ***Impacts from Potential Industrial Uses of Acutely Hazardous Materials***

Areas designated for future industrial uses include: 1) properties within one-quarter mile of, and upwind of, George Mayne School; 2) properties within one-quarter mile of existing residential areas; 3) property within 300 feet of the National Wildlife Refuge and projecting approximately 1,800 feet into New Chicago Marsh; 4) property directly adjacent to Coyote Creek. Future industrial use of acutely hazardous materials near these sensitive populations and habitats could increase the likelihood of an adverse impact occurring as a result of a leak or spill.

The use of extremely hazardous materials as close to a school as would be allowed by the proposed *Master Plan* has potentially significant implications for both the school population, and for the delivery of public safety services for the community as a whole. In the event of an accidental release of a toxic substance upwind of the school, from the *Industrial Park* development proposed on the north side of Wilson Way, it would be very possible that the release could reach the school prior to an evacuation being completed. Since the existing school does not have a "shelter in place" facility which can be secured from air borne toxics,

children would have to be secured in existing rooms until they could be evacuated. Because children cannot evacuate themselves, the evacuation of a school would require a large number of public safety (fire and police) personnel. This has the potential to deprive other areas of the community of fire and police protection, which would be particularly significant during a public emergency such as an earthquake.

- **Development allowed under the *Alviso Master Plan* could result in potential hazardous materials impacts associated with future residential, commercial, and industrial uses on potentially contaminated sites. The potential storage, handling, and use of acutely hazardous materials by industrial uses in close proximity (within one-quarter mile) of residential uses, George Mayne School, and both the National Wildlife Refuge and sensitive marsh habitat could also result in significant adverse hazardous materials impacts. (Significant Impact)**

### **Impacts from Bioaerosols**

As noted previously, compost bioaerosol microorganisms are common in the environment and compost facilities are not an isolated source of bioaerosols. Properly operated compost facilities would not significantly raise ambient levels of compost bioaerosols, except in the immediate vicinity (within 500 feet) of a facility during active yard waste/compost handling. As spores are blown far from site, more particles settle out; mixing with ambient air further dilutes the concentration.

No residential, commercial, or industrial uses would be located within 500 feet of a composting facility.

- **Implementation of the *Master Plan* would not result in significant adverse health impacts due to exposure to compost bioaerosols.**

### **EMF Impacts**

The California Environmental Quality Act (CEQA) advises that a project's impact is significant if it creates a potential public health hazard. EMF cannot currently be regarded as such a potential hazard under CEQA, due to the lack of substantial evidence in research findings. Absent any conclusive scientific evidence regarding the health effects of EMFs and absent any relevant standards from government agencies, there is no basis at this time to conclude that residents or future residents in the Alviso area would be exposed to potentially significant EMF-related hazards.

In an effort to deal with the uncertainty of EMF, several utility companies (including PG&E) and some jurisdictions have addressed the EMF issue through recommendation of prudent avoidance. Prudent avoidance serves to limit public exposure to EMF through small investments of money and effort. It may be desirable to consider applying setbacks used by the California State Board of Education (100 feet from the 115 kV transmission line right-of-way) or a specific exposure limit (such as the 2 mG exposure limit currently under consideration as part of the National Council on Radiation Protection Guidelines) for new development in the Alviso area.

- **New development within the *Master Plan Area* near high voltage electric transmission lines could be exposed to EMF levels greater than 2 mG. Although EMF cannot currently be regarded as a potential hazard under CEQA, it would be prudent to setback residences and other uses from high voltage transmission lines. (Less Than Significant Impact)**

### **Impact of the USA Expansion**

The *Master Plan* includes a proposal to expand the USA approximately 14 acres to the north, near State Street and Spreckles Avenue. Past filling practices and land uses within the proposed USA expansion area may have resulted in the contamination of this area with fuels, asbestos, and possibly heavy metals.

Future industrial uses have the potential to release hazardous and acutely hazardous materials into the environment during their use, storage, transport, disposal or handling. The proposed USA expansion would introduce additional industrial uses near residential areas and in direct proximity to the National Wildlife Refuge and marshland containing habitat for listed species. Expansion of the USA would allow for industrial development on lands underlain by bay muds, and on which fill materials have been placed without permits. Soil conditions are, therefore, likely to result in the potential for significant structural damage to industrial buildings or process equipment in the event of a seismic event. The potential storage, handling, and use of “acutely” hazardous materials by industrial uses in close proximity of residential uses and sensitive wildlife habitats could result in significant adverse hazardous materials impacts.

- **Development allowed in the proposed USA expansion area under the *Alviso Master Plan* could result in potential hazardous materials impacts associated with future industrial uses on potentially contaminated sites. The proposed USA expansion could introduce additional industrial uses within 1,000 feet of residential uses and within 300 feet of the Refuge. The potential storage, handling, and use of “acutely” hazardous materials by industrial uses in close proximity of residential uses and sensitive habitats could result in significant adverse hazardous materials impacts. (Significant Impact)**

### **3. Mitigation for Public Health and Safety Impacts**

#### **General Plan Policies**

The following General Plan policies would provide mitigation for future potential public health and safety impacts.

- ***Hazards Policy #1*** - Development should only be permitted in those areas where potential danger to the health, safety, and welfare of the residents of the community can be mitigated to an acceptable level.
- ***Hazardous Materials Policy #1*** - The City should require proper storage and disposal of hazardous materials to prevent leakage, potential explosions, fires, or the escape of harmful

gases, and to prevent individually innocuous materials from combining to form hazardous substances, especially at the time of disposal.

- *Hazardous Materials Policy #3* - The City should incorporate soil and groundwater contamination analysis within the environmental review process for development proposals. When contamination is present on a site, the City should report this information to the appropriate agencies that regulate the cleanup of toxic contamination.
- *Fire Hazards Policy #7* - The City should regulate the storage of flammable and explosive materials and strongly encourage the proper transportation of such materials.

### **Other Programmed Mitigation Measures**

- ❖ *Hazardous Materials Management Plan, Chapter 17.68, San Jose Municipal Code* states that any person, firm or corporation which stores any regulated hazardous material shall obtain and keep current a Hazardous Materials Storage Permit and that a Hazardous Materials Management Plan must be submitted to the San Jose Fire Department. Facilities which generate hazardous wastes, must also submit a Hazardous Waste Generator Permit Application to the Santa Clara County Health Department, Office of Toxics Enforcement.

Applications for hazardous materials permits are required for new projects that would use hazardous materials and for existing facilities where chemical use will change in a substantial manner. Environmental review required under CEQA as part of the permitting process will identify potential future impacts from new projects or modified industrial processes. Mitigation measures that will avoid or reduce potential significant impacts from the use, transportation, or storage of hazardous materials may be identified as part of the environmental review process. If new uses are found to be incompatible with existing land uses (e.g., George Mayne School or residential areas), hazardous materials permits and/or conditional use permits would not be issued by the City.

- ❖ *Senate Bill 1899 Accidental Release Prevention Program (ARE)* replaced the California Risk Management and Prevention Program effective January 1, 1997. Senate Bill 1889 requires businesses that handle threshold quantities of regulated substances on the federal list (Section 68.130 of Title 40 of the Code of Federal Regulations) to submit a Risk Management Plan by June 21, 1999. Businesses that handle more than a threshold quantity of a state regulated substance that is not also over the federal threshold quantities would be required to implement an ARE upon request of the local government implementing agency. New businesses or users of regulated substances above threshold quantities will be required to submit a Risk Management Plan prior to using these substances. The County of Santa Clara Department of Environmental Health reviews the risk management plans as the Certified Unified Program Agency (CPA) and the City of San Jose is the local government implementing agency for businesses within the City.
- ❖ The *Federal Hazardous Material Transportation Act* was passed to reduce the likelihood and minimize the impact of transportation accidents involving hazardous materials. The law specifies packaging requirements for different types of hazardous materials, and detailed manifesting of the contents of a vehicle is required to inform responders to a transportation accident of the materials involved.



- ❖ *Section 25536 of the State of California Health and Safety Code* regulates siting of hazardous materials users, and require special plans for any facilities which store, handle and/or emit certain quantities of hazardous materials. This State regulation is locally administered by City and the Bay Area Air Quality Management District (BAAQMD). In addition, the *State Public Resources Code* (Sections 21151.4 & 21151.8) and Sections 42301.6 and 42301.7 of the *Health and Safety Code* apply to schools. These regulations address facilities that may emit hazardous or acutely hazardous air emissions materials and are located within one-quarter mile (1,340 feet) or 1,000 feet of schools.
- ❖ *The Uniform Building Code and Uniform Fire Code* contain storage requirements for hazardous materials such as corrosives, flammable liquids, and gases. Many of the safeguards in the Uniform Building Code and Uniform Fire Code improve overall safety and provide for some containment in the event of a fire or accidental release. They are meant to protect the personnel who work in on-site structures and allow occupants to escape from unsafe buildings. They are not specifically intended to prevent releases of materials that could have off-site consequences or protect the surrounding community.
- ❖ *AB 2185 and AB 3777* contain requirements for emergency response plans. The purpose of these plans is to assist local agencies in preparing for a hazardous materials spill. Emergency plans identify the potential for accidents in a community, define a chain of command in the event of an emergency, outline escape routes if necessary, and provide other emergency procedures. The City of San Jose Office of Emergency Services maintains the City's Emergency Response Plan. The Plan provides the overall framework for emergency to various types of hazards and contains a specific response action plan for hazardous materials incidents, that is implemented by the responsible agencies. Each responsible agency then maintains detailed operation procedures for responses to hazardous materials problems.
- ❖ *The California Integrated Waste Management Board and the Local Enforcement Agency (The City of San Jose)* oversee the monitoring of landfill gas production and the maintenance of landfill caps for closed landfills. Projects within 1,000 feet of landfills would be required to be reviewed by the Local Enforcement Agency/California Integrated Waste Management Board.

**Conclusion:** Implementation of the General Plan policies, and conformance with State and Federal laws, and local ordinances, would reduce most potential public health and safety impacts to a less than significant level. The potential storage, handling, and use of acutely hazardous materials by industrial park uses in close proximity to George Mayne School could result in significant adverse hazardous materials impacts. **(Significant Unmitigated Impact)**

**Possible Mitigation  
Not Proposed At This Time**

***Mitigation for Local Land-Use Related Impacts***

The indirect impacts of project land use designations that place industrial uses adjacent to and upwind of sensitive receptors can be substantially reduced or eliminated by modifying the proposed project in one of the following ways:

- Establish a buffer zone between industrial uses and sensitive receptors by creating a transitional industrial overlay wherein users of specified state or federally regulated materials (*e.g.*, acutely hazardous materials) above threshold planning quantities are not permitted.
- Establish a buffer zone between industrial uses and sensitive receptors by redesignating areas near sensitive receptors to non-industrial uses.

**Mitigation Measures to be Considered  
at the Time of Future Development**

***Hazardous Materials***

- A Phase II Environmental Site Assessment (soil testing program) to determine the possible presence of pesticides and herbicides would be required for sites on which there were greenhouses and for properties previously cultivated on which residential development, or other sensitive uses, are proposed. The Phase II Environmental Site Assessments will also include specific techniques for remediating all contamination found, in conformance with local, state and federal laws and regulations, and which will be implemented by the proposed development.
- Any old wells on future development sites will be located and abandoned properly if no longer in use.
- Future industrial development will be evaluated for possible impacts associated with the use of hazardous materials, relative to the materials' proximity to sensitive receptors, such as George Mayne School and residential areas.

***EMF***

- In conformance with prudent avoidance standards, the City will encourage future residential development to implement design standards which ensure that new residences maintain a 100-150 foot setback from high voltage transmission lines such that no dwelling unit will be exposed to magnetic fields in excess of 2 mG under typical operating conditions. Prior to any detailed project planning near high voltage transmission lines, the project proponent would have PG&E (or other qualified personnel) take ambient EMF readings along electric transmission lines adjacent to the specific project. These readings would be used to establish a contour on the site where

the EMF level is 2 mG under typical operating conditions of the transmission lines. All residential and workplace buildings would be located outside the area exposed to EMF levels greater than 2 mG. Automobile parking, passive open space, and other occasional occupancy uses would be acceptable within those areas exposed to elevated EMF levels.

### **Significant Unmitigated Impact**

The potential storage, handling, and use of acutely hazardous materials by industrial park uses in close proximity to George Mayne School could result in significant adverse hazardous materials impacts. **(Significant Unmitigated Impact)**

## F. CULTURAL RESOURCES

A cultural resources assessment, including a literature review and a limited field inspection of the *Master Plan Area*, was conducted by Basin Research Associates. Archival research included a review of pertinent literature and maps, record reviews at the Historical Resources Information System, Sonoma State University, Rohnert Park and the National Park Service, consultation with knowledgeable parties, and a "windshield" inventory of historic resources. The results of this cultural resources assessment are contained in a report on file with the City of San Jose Department of City Planning, Building, and Code Enforcement. Because the report discusses the location of specific archaeological sites, it is considered administratively confidential and is not included in this EIR.

### 1. Existing Setting

#### Prehistoric Resources

Prehistoric resources in the *Master Plan Area* include two recorded sites, CA-SCI-485 and SCI-528. The known prehistoric archaeological potential of the North First Street area south of SR 237 and the almost certain Native American utilization of the faunal and floral resources associated with the riparian and bay shore marsh habitats of Alviso suggests a high potential for the discovery of other prehistoric sites in the planning area. These resources may be obscured by the alluvial deposition and erosion associated with the frequent flooding of the Guadalupe River and Coyote Creek as well as by agricultural activities and urbanization. No known ethnographic or contemporary Native American resources, including sacred places and traditional use areas, are present in the *Master Plan Area*.

The *Master Plan Area* is believed to have a moderate to high sensitivity for archaeological resources based on the results of research in the immediate area. The general area appears to have been situated in a favorable environment for prehistoric use, with water and a variety of ecological niches available for resource exploitation in the alluvial plain, foothills and bay margins.

#### Historic Resources

The Cultural Resources Assessment prepared for the *Master Plan Area* included a detailed historical overview of development within Alviso. The first recorded crossing of the Guadalupe River was made in the vicinity of Alviso during 1769 by Jose Francisco Ortega, a soldier in the exploring party of Gaspar de Portola and Juan Crespi. Settlement in the San Jose area dates to 1777 with the establishment of both the Pueblo de San Jose and the Mission Santa Clara de Asis along the banks of the Guadalupe River, several miles south of the *Alviso Master Plan Area*. The waterfront area of Alviso, originally called the *Embarcadero de Santa Clara*, was originally developed to allow the early Spanish settlements a landing for trade. During the Mexican Period and into the American Period, the planning area was situated primarily within the land grant of the *Rincon de los Esteros*, but also included the northernmost part of the *Embarcadero de Santa Clara* and the northeasternmost part of the neighboring *Rancho Ulistac*. Land speculators founded the Port of Alviso in the late 1840s. The initial town site survey of Alviso was completed in 1849 with lots of 50 x 100 feet offered for sale shortly after the town survey. A city charter

was granted to the town of Alviso in 1852 and the area was consolidated with the City of San Jose in 1968.

Identified historic resources in the *Master Plan Area* include: (1) the Hispanic Period Alviso (Valencia) Adobe dwelling site dating to ca. 1830 associated with the *Rincon de los Esteros* of Francisco Berryessa; (2) the Port of Alviso National Register of Historic Places District (Alviso Historic District) with 11 contributing structures; (3) five of the 98 listed San Jose City Landmarks; and (4) seven buildings/sites associated with the Bay Side Canning Company which have merited attention as part of the State of California ethnic sites survey.

The archival review further suggests that potentially significant subsurface historic archaeological resources may exist on the sites of both former buildings and structures, and with historic architectural resources within the *Master Plan Area* and immediate vicinity.

A brief field review and windshield survey, coupled with the archival research, suggests a high potential for significant American Period sites and buildings within the *Master Plan Area*. These include previously identified buildings/sites associated with the Alviso Historic District, the Bay Side Canning Company, and other potential individual resources within the *Master Plan Area*. In addition, sites associated with the Chinese, Japanese and EuroAmerican communities (e.g., general store, wash house, schools, additional Bay Side buildings/sites such as a cafeteria) may be of significance to the multi-cultural and ethnic fabric of Alviso.

### ***Summary of Field Review***

A field review of buildings within the *Master Plan Area* included structures identified on various historic inventory lists. The assessment focused on potentially important properties that had not previously been identified. The field review was completed in January, 1995 (see Table 10).

The field review found that many of the buildings in the older section of Alviso do not have posted address numbers, thus requiring considerable time and effort to identify and locate listed items. In many cases, identification of the structures relied on the identification of adjoining and nearby buildings and Assessor's parcel maps. Structural modifications also hindered identification of original structures or portions of historic structures. For example, the Constable's Office & Jail (ca. 1865),<sup>23</sup> reported to be at 1621 El Dorado Street, may exist, but it may be covered by modern plywood and batten sheathing or hidden within the backyard of the parcel.

The field review also established that several of the unoccupied structures, and the most deteriorated, are among the most historically important. For example, Wade's 'Round the Horn House dating to ca. 1855 (located at 1641 El Dorado Street) is now boarded up and in extremely poor condition, as compared with a previous description done in 1975. In another case, the Robidoux House at 1061 Taylor Street (or possibly 1161 Taylor) could not be precisely located. The parcel number listed on the Alviso Historic Resources Inventory list

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<sup>23</sup>"ca." or "circa" before a date means that the date is approximate.

**TABLE 10**  
**Listed and Previously Identified Historic Resources**

Resource/Address	Map Key	National Register of Historic Places District			City Land-mark	S.C. Co. Historic Her. Res. Inv. Prop.	Alviso Historic Res. Inv.	Robarts n.d.	ESA 1975	Pace 1975	Butler 1991	Ethnic Sites Inv.	Status
		Within Boundary	Contrib. Structure #	NRHP status									
<b>ALVISO HISTORIC DISTRICT</b>		yes		listed									
Union Warehouse and Docks (Bay Side Cold Storage) 1200 Hope Street	A	yes	#1	?			yes	4	17				
Tilden/Laine Residence 970 Elizabeth Street	B	yes	#2	?	yes		yes	7	2	20	yes		
Tilden/Laine Grocery Store 996 Elizabeth Street	C	yes	#3	?	yes		yes	6	3	14	yes		
Robert Trevey Residence 1413 El Dorado Street	D	yes	#4	?		yes	yes	11	13	16			
Railroad Depot 990 Elizabeth Street	E	yes	#5	?			yes	8	15	6	yes		
Captain John Martin's House 1080 Catherine Street	F	yes	#6	?			yes	10	5	19			
La Montagne Boarding House 1044 Catherine Street	G	yes	#7	?			yes	9	4	15			
South Bay Yacht Club 1491 Hope Street	H	yes	#8	?			yes	12	18	5	yes		
Wade's 'Round the Horn House 1641 El Dorado Street	I	yes	#9	?	yes	yes	yes	15	14	18	yes		
Wade's Warehouse 1657 El Dorado Street	J	yes	#10	?	yes	yes	yes	16	16	1	yes		
Constable's Office and Jail 1621 El Dorado Street	K	yes	#11	?		yes	yes			8			
<b>BAY SIDE CANNING COMPANY</b>												yes	
Bay Side Cold Storage (Union Warehouse and Docks) 1200 Hope Street	A	yes	#1	?			yes	4	17		yes	#1	
Bay Side Cannery (Alviso Watch Factory) 1290 Hope Street	L	yes	no	appears eligible	yes		yes	1		2	yes	#2	



**TABLE 10 (cont.)  
Listed and Previously Identified Historic Resources**

Resource/Address	Map Key	National Register of Historic Places District			City Land-mark	S.C. Co. Historic Her. Res. Inv. Prop.	Alviso Historic Res. Inv.	Robarts n.d.	ESA 1975	Pace 1975	Butler 1991	Ethnic Sites Inv.	Status
		Within Boundary	Contrib. Structure #	NRHP status									
Bay Side Cannery Office 907 Elizabeth Street	M	yes	no	appears eligible	yes		yes	3	1	12		#3	
Bay Side Cannery "China Camp" (Mudflat Refuge) 906 Elizabeth Street	N	yes	no	appears eligible			yes	2			yes	#4	
Bay Side Cannery "Apple Drier" site SE Corner of El Dorado and Taylor	O	yes	no	appears eligible								#5	possible historic archaeological site
Thomas Foon Chew House Site NE corner of El Dorado and Taylor	P	yes	no	appears eligible								#6	
Bay Side Cannery Cabins site Mill Street between Hope and El Dorado Streets	Q	yes	no	appears eligible								#7	possible historic archaeological site
<b>OTHER STRUCTURES/SITES</b>													
former Chinese Casino NW corner of El Dorado and Taylor	R	yes	no	?				13					
Wade Prefabricated House corner of El Dorado and ?			no	?									location unknown
J.J. Pipe's Alviso Hotel (Marina Sea Food) 995 Elizabeth Street	S	yes	no	?				5					
former Robidoux Blacksmith Shop 1524 Liberty Street	T	no	no	?				18	11	4	yes		possible historic archaeological site

**TABLE 10 (cont.)**  
**Listed and Previously Identified Historic Resources**

Resource/Address	Map Key	National Register of Historic Places District			City Land-mark	S.C. Co. Historic Her. Res. Inv. Prop.	Alviso Historic Res. Inv.	Robarts n.d.	ESA 1975	Pace 1975	Butler 1991	Ethnic Sites Inv.	Status
		Within Boundary	Contrib. Structure #	NRHP status									
Robidoux House or former site 1161 Taylor Street	U	no		?			yes		9	17	yes		
Alviso School site ? Liberty Street (btwn Taylor and Hoppe Streets)	V	no	no	?				17	12	3			not extant
former site of Alviso Community Church 1321 State Street	Not on fig.	no		?				21	6	13			
Old City Hall and Firehouse 1060 Taylor Street	W	no	no	?			yes	14	7	21			
Residence 1142 Taylor Street	X	no	no	?					8				possibly not extant
Vernacular Residence 1160 Taylor Street	X	no	no	?			yes						not extant
Vernacular Residence 1170 Taylor Street	X	no	no	?			yes						
Unidentified residences (2) N side of Taylor btwn Liberty and Michigan	Y	no	no	?				19,20					not extant
William Zanker House Zanker Road	Not on fig.	no		?						22	yes		moved to Kelly Park

Source: Basin Research Associates.

**TABLE 11**  
**Potential Architectural Resources Identified During Field Review**

LOCATION	IDENTIFICATION/NOTES
<b>Archer Street</b>  1291 1231 1207	Residence, bungalow, some remodeling Residence, cottage Residence, cottage
<b>Essex Street</b>  1391 1364 4761	Residence, bungalow Business (Juvet Metaline) Residence, two story
<b>Grand Street</b>  1356 1370 1504 next to 1556 (no address)	Residence, cottage Residence, cottage Residence, cottage Quonset huts (2) with cottages behind
<b>Liberty Street</b> 1537	Residence, single story with central entry and 6/6 windows; across street from former Robidoux Blacksmith Shop at 1524 Liberty Street
<b>Michigan Street</b>  1318 1364 1368 1391 1397 1425 1541 1598	Residence, cottage, remodeled Residence, Queen Anne style cottage Residence Residence, Queen Anne style cottage Residence Residence, bungalow Residence, bungalow Residence, bungalow, remodeled

**TABLE 11**  
**Potential Architectural Resources Identified During Field Review**

LOCATION	IDENTIFICATION/NOTES
<b>Pacific Street</b>  No address (middle between Wabash and State Streets, NE side of street)  1411 1421 1423 1469	Residence, cottage    Residence, bungalow Residence, bungalow Residence, cottage Residence, bungalow
<b>State Street</b>  1591 1583	Residence, extensive remodeling Residence, bungalow
<b>Taylor Street</b>  1134	Residence; adjacent to Alviso Boat Dock at 1160A Taylor Street
<b>Wabash Street</b>  1266 13?? (on corner) 1361 1370 1407 1415 1416 1421 1432 1446 1510 1527 1567 1583 1594	Residence, cottage Residence, cottage (badly damaged) Residence, cottage (remodeled) Residence, cottage, some remodeling Residence, cottage Residence, cottage Residence, cottage Residence, bungalow Residence, house Residence, bungalow Residence, two story Residence, house Residence, bungalow Residence, bungalow

Source: Basin Research Associates.

is the Alviso Public Library (APN 015-02-22). The residence at the alternative location of 1161 Taylor Street does not fit the historic description of the Robidoux House, although the dormer may have been stuccoed over. The former Robidoux Blacksmith Shop, 1524 Liberty Street, was reportedly located adjacent to Robidoux House on Taylor and supports the 1161 Taylor Street address (APN 015-03-37). As illustrated on the 1908 Sanborn Insurance Map, the blacksmith shop jutted out on the southwest corner of Liberty and Taylor Streets. This blacksmith shop appears to have been removed by 1930. Thus, the boarded-up structure now present appears to have been misidentified in a previous inventory as the Robidoux Blacksmith Shop.

The field review identified the presence of 42 additional American Period structures within the *Master Plan Area*, generally not noted on any lists or inventories, that could be potentially significant at the local, State and/or National level (Table 11 and Figure 20). The structures were viewed from the street, and no attempt was made to enter any of the properties or to inspect the yards or building interiors. Almost all of the structures appeared to be used as residences. Several were in an advanced state of disrepair, although still in use either for living quarters or storage. On the basis of external features, most of these structures appear to date from the 1920s to 1930s, although buildings from the turn of the twentieth century to the contemporary period are present in varying numbers in the neighborhood. Most of the structures probably have problems of integrity, fabric and location, and a more detailed study than a reconnaissance-level review would be necessary to definitively establish their condition and value. Formal recognition of these residences as historic structures or locations would require an intensive research effort using historic maps and photographs, archival and property records, preliminary field inspections of the property and interviews with residents.

#### *National Register Historic District*

The port and surrounding areas between Catherine and Elizabeth Streets have been designated as the Port of Alviso National Register of Historic Places Historic District (CA-SCL-339H) (Figure 22). The 11 buildings listed and mapped on the NRHP form are assumed "contributing" structures, that is ". . . a building, site, structure, or object adding to the historic significance of a property" (in this case a district). The Alviso Historic District buildings are listed in Table 12.

The Precita Canning Company, founded in or before 1890 by Sai Yin Chew,<sup>24</sup> moved from Broadway and Sansome Streets in San Francisco to Alviso after the 1906 earthquake and fire, and reorganized under the name Bay Side Canning Company. The company rented, and later purchased, the Alviso Watch Factory building at 1290 Hope Street and initially relied on primitive canning methods and equipment.

Thomas Foon Chew began working for his father, Sai Yin Chew, in 1906 and later inherited the company. He is credited with the dynamic and successful expansion of the Bay Side Canning Company. His innovations included the acquisition and development of state-of-the-art technology and processing techniques, the construction of additional

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<sup>24</sup>Also known as Yen Chew.

<p style="text-align: center;"><b>TABLE 12</b>  <b>Contributing Structures Within the Port of Alviso Historic District</b></p>	
NRHP District Contributing Structure No.	Site and Listed Address
1	Union Warehouse [and Docks] (also used later as the Bay Side Cannery Cold Storage Plant) built 1858 at 1200 Hope Street
2	Tilden/Laine Residence built 1887 at 970 Elizabeth Street
3	Tilden/Laine Grocery Store built ca. 1860 next door to the residence at 996 Elizabeth Street
4	Robert Trevey Residence built 1902 at 1413 El Dorado Street
5	Railroad Depot built 1904 and now located at 990 Elizabeth Street
6	Captain John Martin's House built ca. 1860 at 1080 Catherine Street
7	La Montagne Boarding House dating to ca. 1870s or 1890s at 1044 Catherine Street
8	South Bay Yacht Club built 1905 and now located at 1491 Hope Street Wade's 'Round the Horn House built ca. 1855 at 1641 El Dorado Street
9	Wade's Warehouse built ca. 1860 [or 1869] at 1657 El Dorado Street
10	Constable's Office and Jail ca. 1865 at 1621 El Dorado Street

### ***Bay Side Cannery***

Another historic property, the Bay Side Cannery is located within the boundaries of the Alviso Historic District. This cannery, specifically the building at 1290 Elizabeth Street, has been designated a City of San Jose Landmark and is listed in the City of San Jose Historic Resources Inventory as a contributing structure to the NRHP District. However, the Bay Side Cannery (and associated buildings and sites) was not formally listed as part of the district when it was established.

The "Bay Side Canning Company" is one of the 30 Chinese sites listed in *Five Views: An Ethnic Sites Survey for California* (California Office of Historic Preservation, 1988). Thomas Foon Chew and the Bay Side Cannery are synonymous with large scale Chinese entrepreneurship, third only to Del Monte and Libby in size. The cannery and its precursor, the Precita Canning Company, were founded by Chinese, managed by Chinese, and employed Chinese almost exclusively in its early years. By the 1930s, Chinese supervised the newly arrived Portuguese and then Italian and Irish employees.



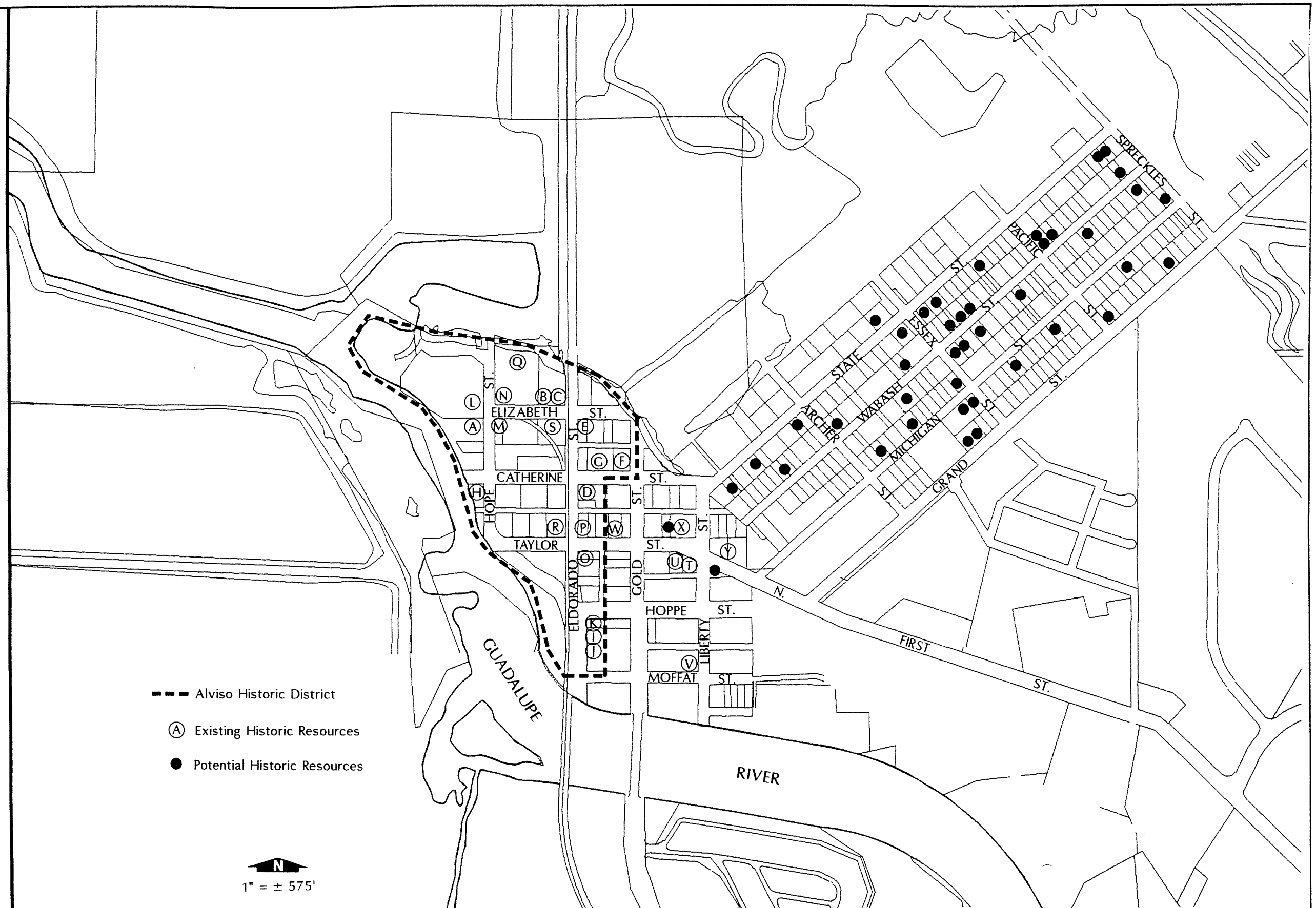
- (A) Union Warehouse and Docks  
Bay Side Cold Storage Plant  
1200 Hope Street
- (B) Tilden/Laine Residence  
970 Elizabeth Street
- (C) Tilden/Laine Grocery Store  
996 Elizabeth Street
- (D) Robert Trevey Residence  
1413 El Dorado Street
- (E) Railroad Depot  
990 Elizabeth Street
- (F) Captain John Martin's House  
1080 Catherine Street
- (G) La Montagne Boarding House  
1044 Catherine Street
- (H) South Bay Yacht Club  
1491 Hope Street
- (I) Wade's 'Round the Horn House  
1641 El Dorado Street
- (J) Wade's Warehouse  
1657 El Dorado Street
- (K) Constable's Office and Jail  
1621 El Dorado Street
- (L) Bay Side Cannery  
1290 Hope Street
- (M) Bay Side Cannery Office  
907 Elizabeth Street
- (N) Bay Side Cannery 'China Camp'  
906 Elizabeth Street
- (O) Bay Side Cannery 'Apple Drier' Site  
SE corner of El Dorado and Taylor
- (P) Thomas Foon Chew House Site  
NE corner of El Dorado and Taylor
- (Q) Bay Side Cannery Cabins  
Mill between Hope and El Dorado
- (R) former Chinese Casino  
NW corner of El Dorado and Taylor
- (S) J.J. Pipe's Alviso Hotel  
995 Elizabeth Street
- (T) former Robidoux Blacksmith Shop  
1524 Liberty Street
- (U) Robidoux House or former site  
1161 Taylor Street
- (V) Alviso School Site  
Liberty between Taylor and Hoppe
- (W) Old City Hall and Firehouse  
1060 Taylor Street
- (X) 3 Residences  
1142, 1160, 1170 Taylor Street
- (Y) Site of 2 Early Residences  
Taylor btwn Liberty and Michigan

--- Alviso Historic District

(A) Existing Historic Resources

● Potential Historic Resources

N  
1" = ± 575'



EXISTING AND POTENTIAL HISTORIC RESOURCES

FIGURE 20

canneries/facilities and the purchase and leasing of agricultural land to control the supply and quality of crops for canning. By the 1920s, Bay Side was one of the approximately 40 canning and packing operators in the Santa Clara Valley, an important part of the County's food processing industry. The Alviso cannery was sold in 1936.

The Bay Side Cannery includes seven existing or former buildings/building clusters. These consist of:

- the Cold Storage Plant, the oldest building, was situated on the southwest corner of Hope and Elizabeth Streets;
- the Main Cannery at 1290 Hope Street and four brick and concrete buildings on the northwest corner of Hope and Elizabeth Streets (also a City of San Jose Landmark);
- the Office at 907 Elizabeth Street on the southeast corner of Hope and Elizabeth Streets<sup>25</sup> (also a City of San Jose Landmark);
- "China Camp", a two-story dormitory building for 100 Chinese laborers at 906 Elizabeth Street on the northeast corner of Hope and Elizabeth Streets (with a kitchen at the back illustrated on Sanborn Map in 1930);
- the "Apple Drier" site on the southeast corner of El Dorado and Taylor Streets (the San Jose Fruit Evaporating Company on Sanborn Map in 1908);<sup>26</sup>
- Thomas Foon Chew Home site on the northeast corner of El Dorado and Taylor Streets; and
- Cabin sites (cottages) on Mill Street between Hope and El Dorado Streets.

The 1930 Sanborn Insurance Map illustrates the expansion of the cannery between 1908 and 1930, along with other buildings occupied by the Chinese in Alviso. Chinese affiliated structures include: (1) a Chinese school located about midblock on Elizabeth Street (on the same side of the street as "China Camp" located at 906 Elizabeth Street), containing buildings with "rooms" behind; (2) the conversion of the former Tilden/Laine Grocery Store at the opposite end of the block at 996 Elizabeth Street into a Chinese Rooming House (also reported to have been a Chinese lottery); (3) the presence of a cafeteria - presumably affiliated with the Bay Side Company as it was located across the street adjacent to the Bay Side Office; and, (4) additional Bay Side Canning facilities, including an auto/truck area, which were situated behind the office and cafeteria with an adjacent box shed.

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<sup>25</sup>Moved to this location; reported to have previously been located across from the main cannery building.

<sup>26</sup>By 1930, Structure #5, the "Apple Drier" had been removed from the cannery.

## ***Other Structures***

The Robidoux House, 1161 Taylor Street, located within the boundaries of the Alviso Historic District, is also not formally part of the district. The location of the Robidoux House has not been confirmed.

The Old City Hall & Firehouse, 1060 Taylor Street, is also not part of the Alviso Historic District and is situated just outside of the boundaries. It was used as Alviso City Hall in 1908 and as a Post Office by 1930. This building, as a post office, was flanked by a Japanese school on one side and a Japanese General Store on the other.<sup>27</sup> The school appears to have been moved from the 1908 east side of Liberty Street between Catherine and Taylor Streets. Its use as a firehouse is not confirmed on Sanborn Maps from 1908 and 1930. The building appears to have been moved midblock post-1930 and is currently used as the Alviso Branch Library. One report states that the Old City Hall-Firehouse was built as a W.P.A. project in 1933-1934 and was made to look old. Further research could clarify the presently conflicting information.

Two properties, located at 1364 and 1391 Michigan Street, are listed in a citywide inventory as being on the NRHP and on the Alviso Historic Resources Inventory list. However, both properties are situated outside of the Alviso Historic District, and are not formally listed. Moreover, Michigan Street is not illustrated on a 1943 U.S. War Department map, but does appear on the USGS map published in 1961. In spite of the listing in the *City of San Jose Historic Resources Inventory* (1994) and on the Alviso Historic Resources Inventory List (1994), no formal NRHP documentation for these two properties is on file with the National Register Office.

## **2. Cultural Resources Impacts**

### **Thresholds of Significance**

For the purposes of this project, a cultural resources impact is considered significant if the project will:

- cause a substantial adverse change in the significance of a historic resource; or
- cause damage to an important archaeological resource.

Alviso represents a unique grouping of cultural resources for the South Bay. Its proximity to the Baylands and historic traditions related to its role as a port have resulted in a community with a particularly vivid character. In addition, the area has experienced periods of activity associated with many of the cultures that have lived in and developed the Santa Clara Valley: Native American, Spanish, Mexican, Chinese, and Japanese, in particular.

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<sup>27</sup>Located northwest corner of Taylor and Gold Streets on 1930 Sanborn Map.

Some physical remnants remain of each of these ethnic communities' presence in Alviso. The physical deterioration that has occurred since some of them were studied 20 years ago indicates that their preservation is becoming increasingly problematic.

### **Impacts to Prehistoric Resources**

Because of the likelihood of Native American occupation or use of various sites throughout the *Master Plan Area*, and the fact that frequent inundations have obscured all surface indications of such use, any disturbance in natural soil has the potential to disturb cultural resources. This is a potentially significant impact.

- **Development allowed under the General Plan land use classifications proposed in the *Alviso Master Plan* could have potentially significant impacts to subsurface cultural resources. (Significant Impact)**

### **Impacts to Historic Resources**

The standing structures in Alviso represent a visible, tangible link with its past and a view of its future. Archival research and a windshield review have established that there is a potential for additional significant American Period architectural resources throughout the *Master Plan Area*. However, it is also apparent that the majority of potential resources will probably have problems of integrity, fabric and location.

The special feeling of the 19th and early 20th century invoked by Alviso, interspersed with pockets of contemporary commercial and industrial vigor, as well as neglect, make the town area unique to the South Bay. The recordation and preservation of this former major commercial port and agricultural center are in concert with the historic preservation policies and goals of the City of San Jose.

The land uses proposed by the *Master Plan* would generally include intensification within the oldest parts of Alviso. The concept of mixed uses, with redevelopment of underutilized sites into a compatible mix of residential and commercial projects, assumes an urban form. While such redevelopment sometimes requires removal of existing structures, many older downtown neighborhoods have been preserved because of the inherent flexibility of a mixed use concept. The proposed land use designations do not, therefore, necessarily mean that new buildings must replace the existing ones. By maximizing the useful options available to owners of property that contains historic structures, the *Master Plan* may make their preservation economically feasible.

The same is true of the area proposed for designation as Medium Density Residential (8 dwelling units per acre). The lower density allows for smaller structures and is less apt to result in a significant degree of demolition for rebuilding.

While the *Master Plan* does not ensure the protection of the remaining historic resources in Alviso, it does provide a context within which their productive use is encouraged.

Nevertheless, implementation of the *Master Plan* may result in significant losses of historic structures which constitute a reminder of the unique history of Alviso.

- **Development allowed under the General Plan land use classifications proposed in the *Alviso Master Plan* could result in significant impacts to historic resources. (Significant Impact)**

3. **Mitigation for Cultural Resources Impacts**

**General Plan Mitigation**

The following General Plan policies would provide mitigation for potential future impacts to cultural resources.

- *Historic, Archaeological and Cultural Resources Policy #1* - Because historically or archaeologically significant sites, structures and districts are irreplaceable resources, their preservation should be a key consideration in the development review process.
- *Historic, Archaeological and Cultural Resources Policy #5* - New development in proximity to designated historic landmark structures and sites should be designed to be compatible with the character of the designated historic resource. In particular, development proposals located within the Areas of Historic Sensitivity designation should be reviewed for such design sensitivity.
- *Historic, Archaeological and Cultural Resources Policy #6* - The City should foster the rehabilitation of individual buildings and districts of historic significance and should utilize a variety of techniques and measures to serve as incentives toward achieving this end. Approaches which should be considered for implementation of this policy include, among others: Discretionary Alternate Use Policy Number 3, permitting flexibility as to the uses allowed in structures of historic or architectural merit; transfer of development rights from designated historic sites; tax relief for designated landmarks and/or districts; alternative building code provisions for the reuse of historic structures; and such financial incentives as grants, loans and/or loan guarantees to assist rehabilitation efforts.
- *Historic, Archaeological and Cultural Resources Policy #8* - For proposed development sites which have been identified as archaeologically sensitive, the City should require investigation during the planning process in order to determine whether valuable archaeological remains may be affected by the project and should also require that appropriate mitigation measures be incorporated into the project design.
- *Historic, Archaeological and Cultural Resources Policy #9* - Recognizing that Native American burials may be encountered at unexpected locations, the City should impose a requirement on all development permits and tentative subdivision maps that upon discovery of such burials during construction, development activity will cease until professional archaeological examination and reburial in an appropriate manner is accomplished.

## Other Programmed Mitigation Measures

### *Archaeological Resources*

- In conformance with City policy, a cultural resources assessment will be conducted for any ground disturbing projects in the *Alviso Master Plan Area*. The cultural resources assessment report will address the potential for prehistoric and historic resources through archival research and a field inventory. Recommendations of the site-specific assessment will be incorporated into project approval.

**Conclusion:** Implementation of the General Plan policies will reduce potential impacts to cultural resources anticipated to occur from implementation of this *Master Plan* to a level of nonsignificance. Specific mitigation measures will be addressed as part of the specific development review process.  
**(Less Than Significant Impact With Mitigation)**

### Mitigation Measures to Be Considered at the Time of Future Development

Following are the specific mitigation measures which will be considered by the City as part of future development proposals.

### *Historic Architectural Resources*

The following methods for addressing the assessment and protection of historic architectural and cultural resources in the *Alviso Master Plan Area* currently are, or could be readily applied:

- The locations of currently listed structures, formerly extant listed buildings and other potentially significant structures should be entered or corrected in the Department of City Planning, Building, and Code Enforcement data base. Requests for permits for exterior alterations, demolition and other structural modifications could be reviewed by an Historic Preservation planner on a case by case basis to evaluate the project's effect on the listed or potential resource. In the case of a potential resource, a property review at a level sufficient to determine the potential significance of the property be completed, and the finding of significance or non-significance could be used to guide the issuance and terms of the permit.
- The City of San Jose could prepare and disseminate information on sources of public and private funding and/or incentives to encourage restoration, preservation, adaptive reuse of buildings and sites through the Alviso Branch of the San Jose Public Library.

For example, *Historic Resources in Alviso*, an *Alviso Master Plan* Task Force Presentation on September 21, 1994 provides information on archaeological resources, guidelines for designation of City of San Jose Historic Landmarks as well as a copy of Chapter 13.48 of the Municipal Code on Historic Preservation, an introduction to the National Historic Preservation Act and Historic Preservation Tax Incentives. In addition, The City of San Jose Building Division and The San Jose Redevelopment Agency have held workshops on Historic Building Preservation and Safety Regulations (e.g., September 27, 1994).



- The City of San Jose could encourage the U.S. Fish and Wildlife Service, the County of Santa Clara and other public agencies to preserve and develop historic, cultural or architectural features on lands under their control in the *Master Plan Area*, in concert with the City.

Ideally, a comprehensive architectural survey of the *Master Plan Area* within Alviso could be conducted by an architectural historian with the objective of inventorying all buildings and structures and reviewing currently "listed" resources, and definitively establishing the status of all remaining structures. The survey, preferably conducted on a block or street basis, could include a complete inventory of all architectural properties on each parcel, including those less than 45 years in age, with special attention to previous block configurations and relocated buildings that could affect the significance of the resource. Evaluations of integrity and significance could be made using appropriate local criteria. This architectural inventory could be designed to provide baseline data for the Department of City Planning, Building, and Code Enforcement to evaluate projects and their affect on historic architectural resources.

As an alternative to this comprehensive inventory, the following three recommendations could serve to implement current historic preservation policies, to maintain on an *ad hoc* basis the past and present cultural, social and economic identity of Alviso. These recommendations were developed based upon the archival and field data gathered for this report and on the City's historic preservation goals and policies. The review and approval of the City of San Jose Historic Landmarks Commission would be the appropriate next step in implementing General Plan policy.

- Designation of an Historic Sensitivity Zone (HSZ) overlay (i.e., the Alviso Historic Sensitivity Zone) could be considered in conjunction with the City of San Jose Historic Preservation Ordinance to control the use or modification of significant resources of historic, cultural or architectural merit within the "historic" core of the community. The HSZ should include the present boundaries of the National Register Alviso Historic District as well as the adjacent area bounded by Catherine Street on the north, Liberty Street on the east and Moffat Street on the south (see Figure 20).

The City of San Jose could encourage the architectural recordation of significant structures within the HSZ by either public or private parties to Historic American Building Records or lesser standards, and the submission of documentation to an appropriate archive.

- Both the NRHP Alviso Historic District and the Bay Side Canning Thematic District<sup>28</sup> could be reviewed and evaluated in regard to the addition of other relevant structures and potential historic archaeological locations to each district.

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<sup>28</sup>The use of the term *thematic district* in this context is based upon definitions in the Glossary of National Register Terms published by the U.S. National Park Service. *Theme* is defined as a trend or pattern in history or prehistory relating to a particular aspect of cultural development, such as dairy farming or silver mining. A *district* is a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

A supplement to the National Register form with current information and locations for the Alviso Historic District should be submitted to the Keeper, National Register of Historic Places, National Park Service. Contributing and non-contributing structures could also be addressed in the supplement.

- An architectural historian could review and further evaluate the potentially significant structures identified during the "windshield" survey to determine their significance and integrity in terms of local, State and/or National importance. If funding is not available for an area-wide study, individual structures could be evaluated prior to demolition or significant modification.

## G. VISUAL RESOURCES

### 1. Existing Setting

As identified and discussed in the Cultural Resources section previously, a combination of circumstances create in Alviso a unique set of visual resources. The area is located at the southerly end of San Francisco Bay, closer to the Bay than any other section of San Jose. The Baylands are flat, allowing for a wide visual field and uninterrupted views. The low profile of most of the structures in the area contribute to this uninterrupted vista.

In addition to the topography, Alviso occupies an unusually rich visual setting. The marshes, rivers, and sloughs meet farmlands and open fields. The location in the "Pacific Flyway" means that there are frequently a large population of birds; the extent of wetlands has created significant communities of bulrush, cattails and other wetland flora. The existence of the National Wildlife Refuge adjacent to developed lands means that significant open spaces will continue to exist. East and west of Alviso are the foothills which create the Santa Clara Valley.

The built or man-made environment in the *Master Plan Area* includes a well-established residential neighborhood, scattered commercial uses, a wide variety of industrial facilities, and a number of quasi-institutional and infrastructure land uses. The residential structures include both single-family and multi-family developments, most of which are one- or two-story wood frame structures built before 1970. Newer residential buildings are scattered throughout the area east of the Taylor/Liberty axis, and are usually elevated or built above garages to meet flood ordinance elevation requirements.

Commercial uses are found throughout the town of Alviso, although most tend to be clustered in the central section. The commercial structures are generally older buildings, many with little or no immediately adjacent parking.

Industrial uses include a variety of uses, with an unusual localized concentration of outdoor storage and other outside activities. Many of the oldest structures in the *Master Plan Area* are industrial buildings, like the Bayside Cannery (see discussion in Section II.E., Cultural Resources). Newer industrial buildings include large tilt-up concrete structures built north of SR 237 and east of North First Street.

Other noticeable visual features in the *Master Plan Area* include the waste mounds of the two major active landfills, and the smaller mound of the private Owens-Corning landfill. The two public landfills, Zanker Road and Newby Island, also have on-site resource recovery activities. Because of its central location, the recycling activities on the Zanker Road site are more visible than the recycling at Newby Island, which is not visually proximate to any public street or residential neighborhood.

The Water Pollution Control Plant, with its large institutional buildings, large metal tanks and equipment, and extensive ponds, visibly dominates the northeasterly portion of the *Master Plan Area*. Views from SR 237 and the approach to Alviso along North First Street include the high nets of the new golf driving range on the west side of North First Street, and the major electrical transmission lines which run east/west across the *Master Plan Area*.

The following photographs demonstrate some of these visual elements. All of these photographs were taken with a 50 millimeter lens, which most closely approximates the human eye. The photographs were taken from the locations shown on Figure 21.

The eastern foothills are clearly visible from most of Alviso. **Photos 1A and 1B** show views of the east foothills from two different locations. Photo 1A looks across a vacant lot on the east side of North First Street, between Grand Boulevard and Michigan Street. The towers of PG&E's electrical transmission lines are visible to the right in the photograph; the residential neighborhood in the middle ground is typical in scale for the area. From this viewpoint, as is the case for much of the area, the foothills form a visual frame for the neighborhood. Photo 1B was taken from the edge of the built-up area, near the intersection of Spreckles and State Street. In the latter view, the electrical transmission towers, Zanker Road Landfill, and even the Refuge Educational Center are visually dwarfed by the combination of New Chicago Marsh in the foreground and the foothills in the distance.

The western foothills are less visible, particularly on days when moisture and/or air pollution reduce visibility. **Photo 2** shows a view of the western foothills from a levee near the South Bay Yacht Club on Hope Street. Alviso Slough (the lower reach of the Guadalupe River) is in the foreground.

The Environmental Education Center is located on the eastern edge of New Chicago Marsh, within the boundaries of the San Francisco Bay National Wildlife Refuge. **Photo 3** shows the town of Alviso as seen from the Education Center. The low profile of the community is not particularly intrusive visually; marshlands and a slough dominate the foreground.

**Photo 4** was taken near where the proposed Bay Trail might pass. This viewpoint looks west along State Street; the Trail alignment would pass by here, and then go north, to the right. Trucking/industrial properties are to the right; the established residential community is to the left.

**Photo 5** was taken from the levee near the South Bay Yacht Club, looking southeast, toward the foothills. This viewpoint is dominated by the National Register Historic District in the fore- and middle-grounds; the foothills frame the picture in the background.

The established community of Alviso is far enough from SR 237 to not be especially visible from the freeway and its offramps. **Photo 6** was taken from the new overcrossing of SR 237 at Gold/Lafayette Streets. Existing industrial uses and outdoor storage yards are visible on the left. Summerset Mobile Home Park is to the right of the viewpoint. Land in the middle foreground is typical of historic, closed landfills in the area.

**Photo 7** was taken from the North First Street overcrossing of SR 237, looking north. Developed lands to the right are industrial properties. To the left is a golf driving range.

From the Zanker Road overcrossing of SR 237, the most visible improvements are the San Jose/Santa Clara Water Pollution Control Plant. **Photo 8** illustrates the view from that point. The Plant facilities constitute most of the improvements in this picture, except for a small enclave of agricultural buildings near the right. All of the agricultural buildings and the

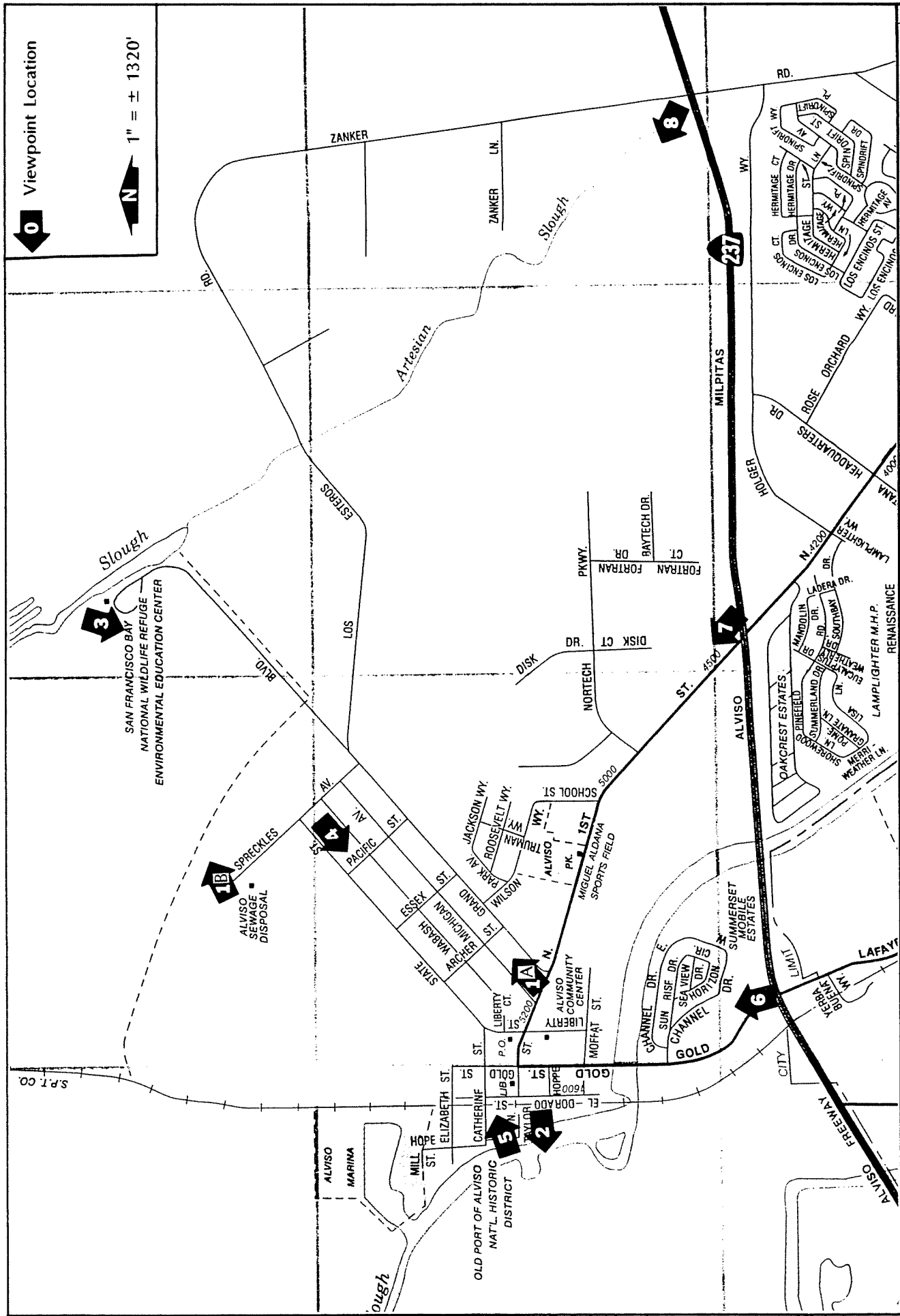


PHOTO LOCATIONS

FIGURE 21

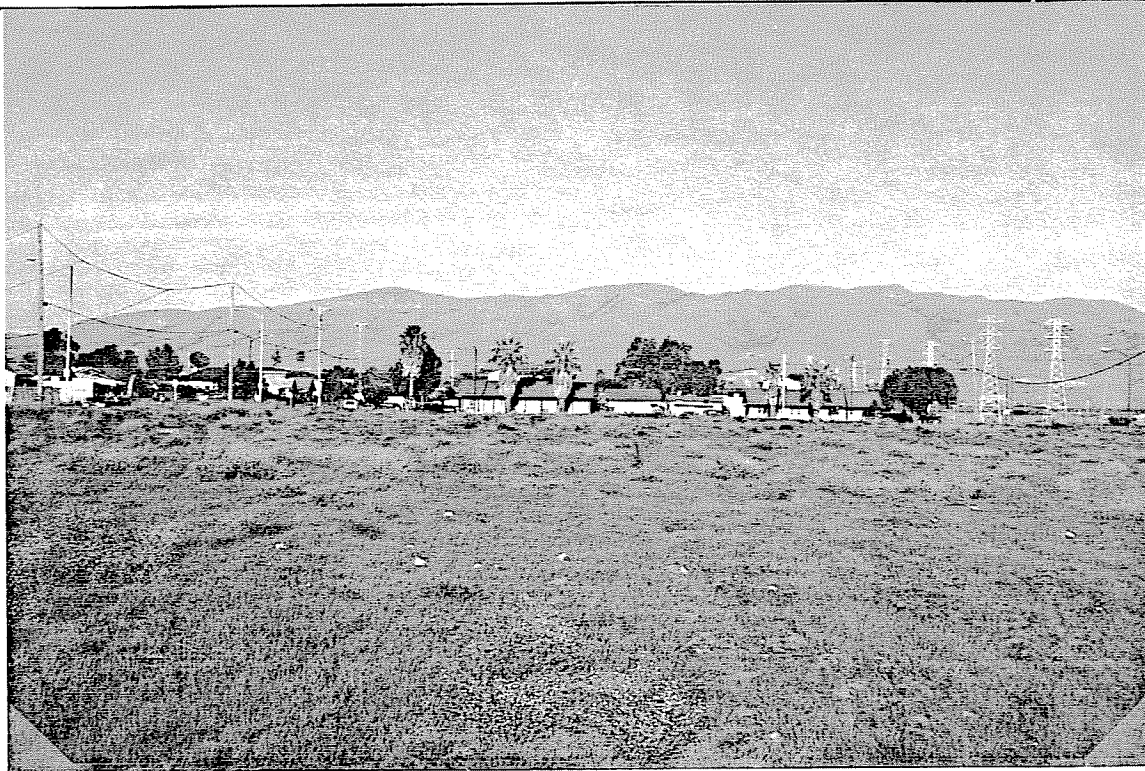


PHOTO 1A: View of the eastern foothills taken from N. First St. between Grand Blvd. and Michigan Ave.



PHOTO 1B: View of the eastern foothills taken from Spreckles Avenue, north of State Street.



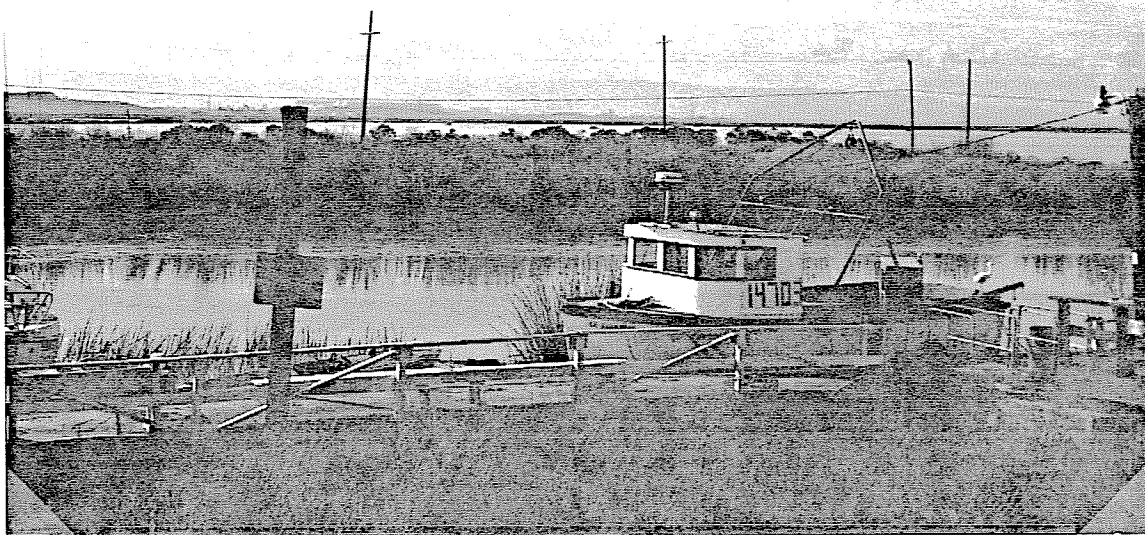


PHOTO 2: View of the western foothills taken from the South Bay Yacht Club.



PHOTO 3: View of Alviso taken from the Environmental Education Center in the San Francisco Bay National Wildlife Refuge.



PHOTO 4: View of Alviso taken from the proposed Bay Trail alignment near State Street.

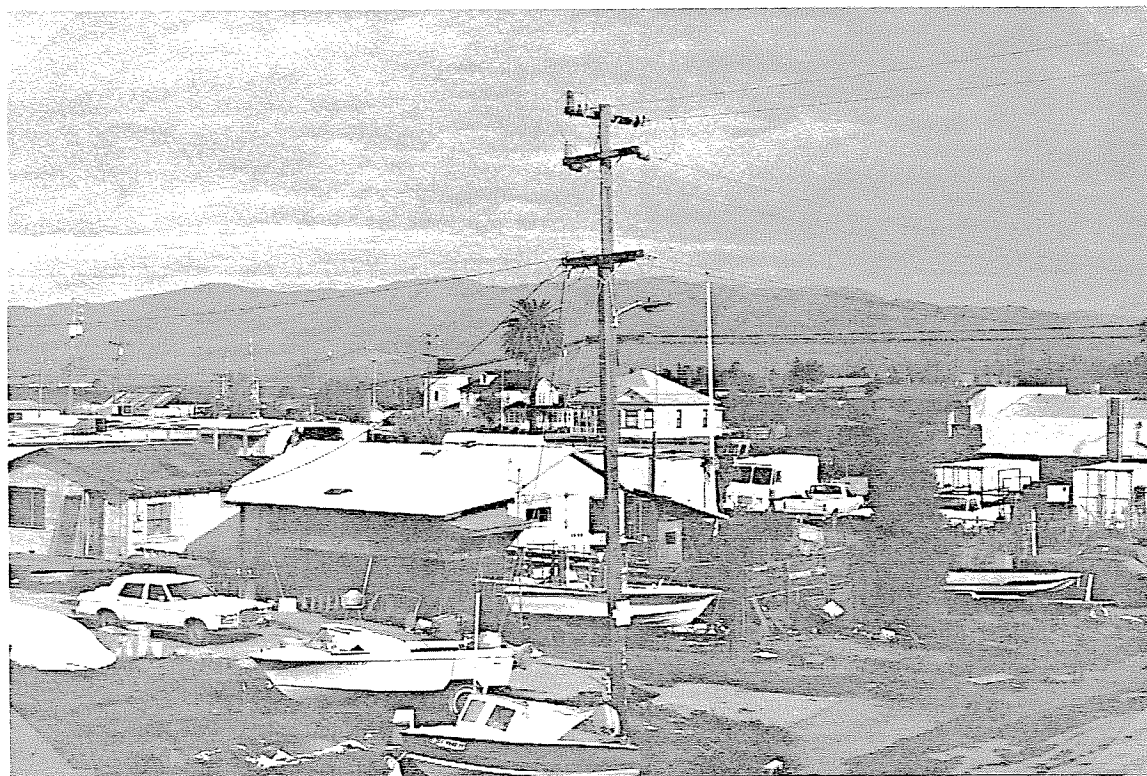


PHOTO 5: View of Alviso taken from the Guadalupe River levee near the South Bay Yacht Club.



PHOTO 6: View of Alviso taken from Route 237 at Gold St.

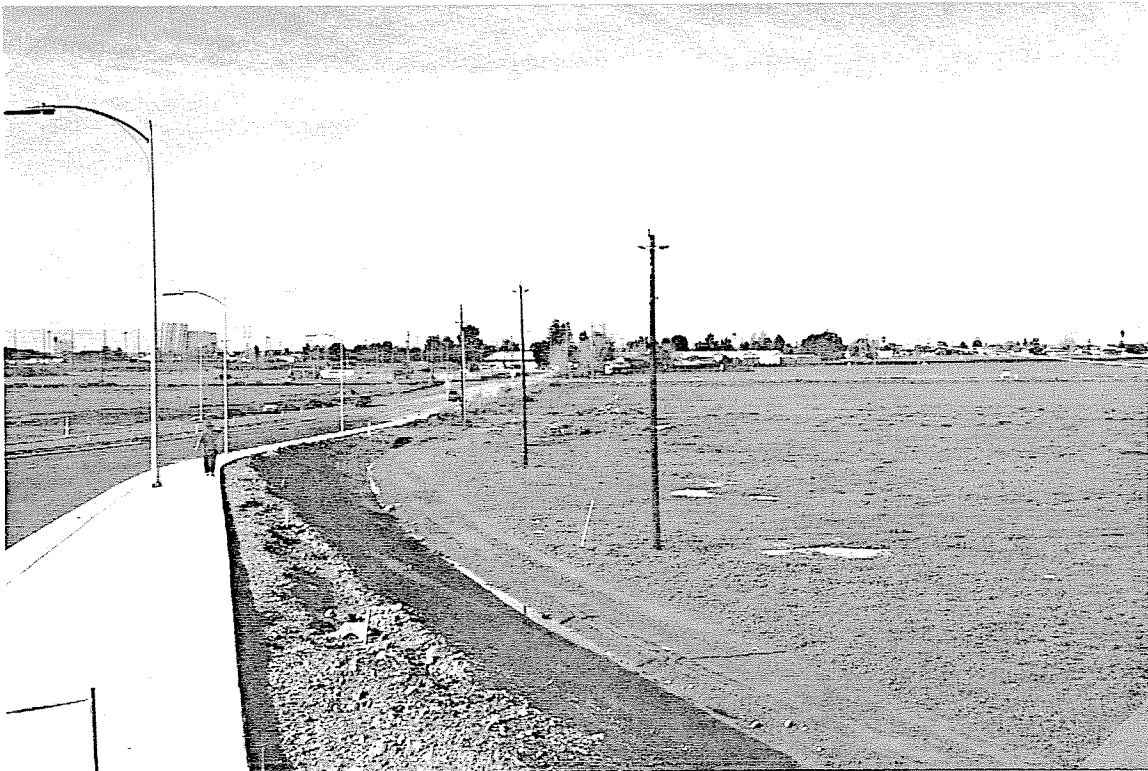


PHOTO 7: View of Alviso taken from the N. First St. overcrossing of Route 237.



PHOTO 8: View of the San Jose/Santa Clara Water Pollution Control Plant taken from the Zanker Road overcrossing of Route 237.



visible agricultural properties in the foreground and to the right are on the buffer lands owned by the WPCP.

## 2. Visual Impacts

### Thresholds of Significance

For the purposes of this project, a visual impact is considered significant if the project will:

- substantially alter existing views of scenic vistas or resources; or
- produce substantial light or glare, such that it poses a hazard or nuisance, or interferes with nearby land uses.

The historic town of Alviso is made up of relatively low-profile, mostly wood frame structures. The ages and styles of the buildings create a great deal of visual interest. Newer, more massive buildings are found in the newer industrial area north of SR 237, and at the WPCP.

The low intensity uses and unique lifestyle of the area has created a certain amount of visual clutter, but also contributes to the visual ties to the Bay.

The natural setting of the Baylands -- marshes, sloughs, waterways -- is visually accessible from most of the *Master Plan Area* because of the low intensity uses and lower profile buildings. The foothills are also visible from most locations.

Significantly greater intensification of land uses, particularly the introduction of taller structures, would diminish the visibility of the area's natural setting, even though much of the open spaces themselves are protected from development. Construction of larger structures in the town area would introduce a very different scale, overwhelming the existing structures and blocking views of the foothills. Larger and more intense build-up within the Urban Service Area will also be more visible to users of the public open spaces -- the Alviso Marina County Park, the Bay Trail, and the National Wildlife Refuge.

Under these circumstances, the greatest potential impact would occur if large structures were built north of State Street in the area designated *Light Industrial*, and under the *Mixed Use* designation north/northwest of Elizabeth Street. Intense development in those areas would obscure the view of the Baylands from the existing neighborhood, and would be visually prominent from the Refuge and Marina Park.

Significant intensification of outdoor uses near residential development, or near the Refuge, could also result in spillover of noise and light into those areas. Other significant impacts would occur with development of the Cargill landfill site, north of SR 237 and west of Gold Street. The landfill is already slightly elevated above adjacent properties. Development with *Industrial Park* uses, including the type of large tilt-up structures being built east of North First Street, would substantially alter the view of the baylands from SR 237, and would constitute a significant change in a scenic vista.

In addition, the proposed expansion of the USA north of State Street would allow for approved development to extend into New Chicago Marsh, including the use of outdoor lighting adjacent to wildlife habitat. Placing industrial development on a peninsula of land that extends into the marsh will result in structures and lighting that are highly visible from within the Refuge, from the County Marina Park, and from neighboring properties.

- **Future development allowed under the proposed *Master Plan* land use classifications north of State Street and on the Cargill landfill site could obscure scenic views. Lighting and noise impacts could also occur in the event outdoor uses near residential development or near the San Francisco Bay Refuge are intensified. (Significant Impact)**

### ***Impact of the USA Expansion***

The *Master Plan* includes a proposal to expand the USA north, into New Chicago Marsh. The extension would result in a peninsula approximately one-quarter mile long surrounded on three sides by the marshlands and within 300 feet of the Wildlife Refuge. Some of this area has already been filled and is used for outdoor storage and other industrial types of uses. The existing General Plan includes approximately 500-600 feet of the peninsula in the USA already (the site of a former wastewater treatment plant, much of which has reverted to wetlands)

Development in conformance with the *Master Plan* and City standards would require that the entire USA expansion area (approximately 14 acres) plus the former wastewater plant be filled in order to drain to a stormwater collection system. Either the property would have to be filled enough to drain to the south and east, to collect runoff in the existing storm sewers, or the properties would be filled less, and would drain directly into the marsh. Draining directly into the marsh would create a significant water quality impact, and would not be in conformance with existing non-point source regulations.

If the USA expansion area is filled so that it drains into the existing storm sewer system in Alviso, the development will result in industrial buildings placed on a site that is graded to be higher than the surrounding marshlands (see discussion under Section II.B., Flooding and Storm Drainage). Structures built in light industrial areas are usually larger and more massive than residential development; structures built within the USA expansion area will either be elevated to keep the first floor above flood level (10-12 feet above the marsh) or will need to be built to a standard "that flood proofs" the first story.<sup>29</sup> In combination with the site elevations needed to drain stormwater, the buildings within the proposed USA expansion area would reach heights of 30 to 40 feet above the surrounding marshes. Development within the USA expansion area is, therefore, likely to be visually prominent and intrusive relative to the surrounding lands, especially viewed from trails within the Refuge and from the educational center to the east. The use of outdoor lighting for parking or security will make these developments even more visible from other points of view within the area.

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<sup>29</sup>Protecting the first floor of an industrial building from flood damage usually result in a more massive building with minimal openings and very heavy construction members.



- The proposed USA expansion will result in development that is visually out of scale with its surroundings and visually prominent from within established recreational and educational facilities. In addition, the proposed expansion of the Urban Service Area could produce substantial lighting and glare impacts to the habitat areas in and adjacent to New Chicago Marsh. (Significant Impact)

### 3. Mitigation for Visual Impacts

#### General Plan Policies

The following General Plan policies would provide mitigation for future potential aesthetic/visual impacts.

- *Industrial Land Use Policy #1* - Industrial development should incorporate measures to minimize negative impacts on nearby land uses.
- *Industrial Land Use Policy #10* - Interface problems between existing residential and new industrial areas should be resolved through the site design and discretionary permit process.
- *Urban Design Policy #2* - Private development should include adequate landscaped areas. Landscaped areas should utilize water efficient plant materials and irrigation systems. Energy conservation techniques such as vegetative cooling and wind shielding should also be utilized. All landscaped areas should include provision for ongoing landscape maintenance.
- *Urban Design Policy #7* - The City should require the undergrounding of distribution utility lines serving new development sites as well as proposed redevelopment sites. The City should also encourage programs for undergrounding existing overhead distribution lines. Overhead lines providing electrical power to light rail transit vehicles and high tension electrical transmission lines are exempt from this policy.
- *Urban Design Policy #22* - Design guidelines adopted by the City Council should be followed in the design of development projects.
- *Bay and Baylands Policy #6* - No development which creates adverse impacts on the National Wildlife Refuge in South San Francisco Bay or results in a net loss of baylands habitat value should be permitted.

#### Other Program Mitigation Measures

- ❖ All new industrial development will comply with the City's Industrial Design Guidelines which state that structures and activities should be located and designed to avoid creating nuisances and hazards for adjoining properties, particularly when these properties have residential uses. The industrial guidelines also provide that lighting levels should not spill onto adjacent properties.

**Conclusion:** Development of the *Master Plan Area* in conformance with General Plan policies and the Residential Design Guidelines would reduce most potential visual impacts to a less than significant level. Because of their location, the proposed *Industrial Park* development on the Cargill landfill site, and the USA expansion into New Chicago Marsh would create a significant change in the existing visual setting, and would substantially alter the existing scenic vistas. **(Significant Unavoidable Impact)**

#### **Mitigation to be Considered at the Time of Future Development**

Implementation of the following mitigation measures at the time of project development would be required to further reduce potential aesthetic/visual impacts to a less than significant level:

- Should flood improvements ever allow it, the height of buildings north of State Street and Catherine Street could be limited to one story.
- On-site lighting for future developments shall use Low-Pressure Sodium fixtures and be designed, controlled and maintained so that no light source is visible from outside of the boundary of properties. In addition, proposed development could potentially be designed to avoid light and glare impacts to wildlife within the New Chicago Marsh.

#### **Significant Unavoidable Impact**

Development of the *Master Plan Area* in conformance with General Plan policies and the Residential Design Guidelines would reduce most potential visual impacts to a less than significant level. Because of their location, the proposed *Industrial Park* development on the Cargill landfill site, and the USA expansion into New Chicago Marsh would create a significant change in the existing visual setting, and would substantially alter the existing scenic vistas. **(Significant Unmitigated Impact)**

## H. TRANSPORTATION AND CIRCULATION

### 1. Existing Setting

The circulation system for the Alviso neighborhood is characterized by a limited number of access points (three) and isolation from any other street system. Alviso streets do not provide access for other neighborhoods. The three points of access to the Alviso street system all connect to the south across State Route 237 (SR 237) and are Gold Street, North First Street and Zanker Road.

The isolated street system of Alviso historically has both fostered the unique character of the neighborhood, and has created access problems in the past. The heavy traffic on SR 237, cutting across the three points of access, has made access for emergency vehicles and anyone else entering or leaving the area, difficult. Access problems to Alviso were reduced in late 1994 with completion of most of the SR 237 freeway improvements in the *Alviso Master Plan Area*. Improvements included construction of overcrossings at Zanker Road, North First Street, and Lafayette/Gold Street, into the *Master Plan Area*.

### **Existing Transportation Facilities**

#### ***Regional Highways***

The proposed *Alviso Master Plan Area* is served by Interstate 880 (I-880), U.S. 101, and SR 237. Access to I-880 is provided via an interchange at SR 237, east of the planning area. Access to U.S. 101 is via an interchange at Lawrence Expressway. Access to SR 237 is provided via interchanges at Gold Street/Lafayette Street, at Zanker Road, and at North First Street. The regional facilities serving the Alviso area are described below:

#### Interstate 880

This freeway extends in a north/south direction with four lanes from north of the U.S. 101 interchange to six lanes north of Dixon Landing Road. During the AM commute hours, traffic congestion is highest in the southbound direction, a pattern that is reversed in the PM commute period. Congestion is magnified through this stretch of I-880 due to the high volume of traffic on the four-lane facility.

#### U.S. 101

Near the Alviso planning area, U.S. 101 passes southwest to southeast as it extends from Los Angeles to the Oregon border. In the vicinity of the *Master Plan Area*, interchanges are located at Lawrence Expressway and Great America Parkway. There are four lanes in each direction, which includes a high occupancy vehicle (HOV) lane in each direction during the AM and PM peak-commute hours. During the AM peak-commute period, congestion is greater in the northbound direction, while the southbound direction is more congested in the PM peak-commute hour.

## SR 237

SR 237 is a six-lane freeway located adjacent to and to the south of Alviso. It extends in an east/west direction, providing access to I-680, I-880, and U.S. 101. Two of the six lanes (one in each direction) are designated as HOV lanes. Access is provided by interchanges with Zanker Road, North First Street, and Gold Street in the Alviso area.

### ***Local Streets***

#### Lawrence Expressway

Lawrence Expressway is a north/south six-lane facility (including HOV lanes) extending from Saratoga Avenue in the south to just north of SR 237. Full interchanges at SR 237 and U.S. 101 provide access to the *Master Plan Area*. Peak-direction travel is northbound in the AM and southbound in the PM peak period.

#### Gold Street (Lafayette Street)

Gold Street is a two-lane arterial in the City of San Jose, with a north/south alignment. Gold Street is designated as Lafayette Street south of SR 237 in the City of Santa Clara. Gold Street is aligned parallel to North First Street and provides access via an interchange with SR 237.

#### North First Street

North First Street is a two- to four-lane arterial that runs in a north/south direction parallel to Gold/Lafayette Street. North First Street extends from the downtown area in San Jose and terminates at a juncture with Gold Street in the north. An interchange at SR 237 provides access to the Alviso area.

#### Zanker Road

Zanker Road provides access to Alviso from SR 237, U.S. 101 and Montague Expressway. Zanker Road is a partially improved arterial street. Where fully improved, it will have four lanes. Many unimproved sections presently contain only two lanes. North of SR 237, Zanker Road terminates at Los Esteros Road, an east/west roadway that runs between Grand Boulevard and Zanker Road.

#### Great America Parkway

This divided arterial runs in a north/south direction between interchanges at U.S. 101 and SR 237. North of SR 237, it curves eastward to connect with Gold Street. It has four lanes north of Yerba Buena Way and six lanes between Yerba Buena Way and Tasman Drive.

### Tasman Drive

Tasman Drive is a four- to six-lane east/west arterial that provides access through North San Jose from Santa Clara. With the construction of a bridge over Coyote Creek as part of the approved Cisco Site 4 development, Tasman Drive will also provide access to Milpitas, I-880, and I-680.

### Montague Expressway

Montague Expressway is a six-lane expressway with one lane in each direction designated for HOVs during peak periods. Montague Expressway provides access to I-680, I-880, and U.S. 101, and becomes San Tomas Expressway at U.S. 101.

### Nortech Parkway

Nortech Parkway is a two-lane facility running east from North First Street. It is shown on the General Plan as a Collector with a 60-90 foot right-of-way, presently planned to extend to an intersection with Zanker Road. One of the proposed uses of this EIR is the removal of the easterly extension of Nortech Parkway beyond its current length from the General Plan Land Use/Transportation Diagram.

## **Existing Transit Service**

Under existing conditions, one bus route (Route 58) provides service along North First Street in the vicinity of the project site. Route 58 provides service between West Valley College and Alviso at a frequency of 30 minutes. Bus service is operated by the Santa Clara Valley Transportation Authority (VTA).

The LRT system provides service between north Santa Clara (Great America Parkway area) and south San Jose and the Almaden Valley. Service is provided every 15 to 30 minutes. The nearest LRT station (the Tasman Station) is approximately one mile from the Alviso Planning Area. Bus service is provided to the station via Route 58.

The CalTrain station nearest the site is the Santa Clara station. The West Tasman Area CalTrain shuttle runs along Lafayette Street from Calle de Luna Drive to the Santa Clara CalTrain station and Transit Center. Calle de Luna Drive is located approximately 0.8 miles south of SR 237.

The Amtrak *Capitols* rail service operates six weekday trains (three northbound and three southbound) between San Jose and Sacramento. Trains pick up and drop off passengers approximately one mile south of the *Alviso Master Plan Area*, at the Great America Station on Lafayette Street at the Tasman Drive overcrossing. Trains stop at the Great America Station between the hours of 6:30 AM and 8:52 PM.

The Altamont Express Commuter Rail service will begin operating on the Southern Pacific right-of-way adjacent to Lafayette Street in early 1998. Four weekday trains (two AM and two PM trips during peak periods) will serve the Great America Station. Transit service for this commuter rail stop, including expanded or new shuttle service, is anticipated to operate

during peak periods. The VTA bus line #58 is a candidate for peak-period service changes to serve this stop at Lafayette Street and Tasman Drive.

### **Near-Term Intersection Levels of Service**

For specific proposed development projects, a different type of analysis from that used for long term land use planned is used to evaluate transportation impacts. The performance of an intersection can be described with the term "level of service" (LOS). LOS is a qualitative description of an intersection's operation based on delay and maneuverability. LOS can range from "A" representing free-flow conditions to "F" representing extremely long delays, which may include effects on adjacent intersections. The various levels of service are defined in Appendix E. The operation of an intersection can also be expressed in terms of the ratio between the volume of traffic passing through it and the capacity of the intersection. For example, a volume to capacity ratio of 0.900 represents an intersection operating at 90% capacity. This volume capacity ratio is expressed as V/C.

For a General Plan amendment, it is not possible to forecast what the conditions will be at nearby intersections when a specific project is proposed. The analytic process for a General Plan amendment, therefore, uses different tools than LOS analyses as described in the impacts analysis which follows.

## **2. Transportation Impacts**

### **Thresholds of Significance**

Transportation impacts for the proposed General Plan amendment and other General Plan amendments and updates of the General Plan are evaluated using San Jose's subregional computer traffic model called TRANPLAN. This computer traffic model provides projections of future traffic circulation on the future upgraded and improved roadway system, taking into account the traffic from future development planned for in the General Plan. The TRANPLAN traffic model is used to evaluate the overall impacts to the roadway transportation system and also to examine how well transportation corridors will perform in the future.

Corridors are evaluated by calculating the total traffic demand on several parallel roadways and comparing the demand to the capacity of the roadways. The parallel roadways are compared across a single line, called a "screenline" that runs across (perpendicular) to the roadways. The collective demand (expressed as traffic volumes) across a screenline is compared to the collective capacity of the roadways crossing the screenline, which condition is then expressed in terms of a level of service.

### **System-wide Threshold**

For the purposes of this project, a system-wide transportation/circulation impact is considered significant if the project would result in:

- (on a TRANPLAN system-wide basis) all three of the following occur: (1) a 1.5% increase in Vehicle Miles Traveled (VMT); (2) a 1.5% increase in Vehicle Hours



Traveled (VHT); and (3) a one mile per hour decrease in average speeds in any planning area.

### **Corridor or Screenline Threshold**

For the purposes of this project, a transportation and circulation impact affecting a corridor or screenline is considered significant if the project will:

- cause the level of service of a corridor screenline to decrease from D or better to E or F.

Because of the size of the City of San Jose's Urban Service Area, and the complexity of its planned transportation system, there is no analytic tool available which can measure precisely the performance of the system and compare it to a quantitative standard which would be equivalent to the General Plan goal for "overall performance" at Level of Service D. This is especially true of trying to precisely measure the future effects of the land use on a single piece of property upon the thousands of miles of roadway in the County.

The thresholds listed above are indicators which can be derived from the city-wide transportation model, and serve as either quantitative measures of potentially adverse *changes* in the performance of the City's transportation system, or as indicators of potentially significant localized congestion.

### **Methodology**

The City of San Jose currently maintains a TRANPLAN-based PM peak-hour transportation planning model encompassing the City's Sphere of Influence as well as the remainder of the County and the Bay Region, along with Santa Cruz and San Benito Counties. The modeled street system includes all facilities shown in San Jose's General Plan Land Use/Transportation Diagram. Moving away from the City's Sphere of Influence, the network becomes more skeletal, including only freeways, expressways and some major arterials. External to the County, the network includes freeways and selected facilities linking freeways.

The City's General Plan, as required by state law and good planning practice is a document that sets long term goals. Of necessity, it must attempt to forecast future conditions and to plan the physical infrastructure to accommodate those conditions. Because long term planning looks beyond the five-year capital budget horizon, not all of the planned transportation facilities (or other infrastructure) is budgeted at this time.

The City's model forecasts PM peak-hour traffic for an horizon year of 2010, with traffic generated by land uses projected by the Association of Bay Area Governments (ABAG), and assigns traffic to a year 2010 transportation system. The year 2010 modeled transportation system reflects the 1992 new Measure "A" (Measure A2) transportation improvements, which include the following seven new light rail lines:

- Tasman (Mountain View extension and Milpitas extension)
- Capitol

- Central
- Vasona
- Stevens Creek
- Sunnyvale/Cupertino and
- Tasman-Warm Springs connection.

The forecasts also reflect a 750-bus fleet. A detailed description of the model is provided in Appendix E.

The long-term traffic analysis consists of comparing the performance of the year 2010 transportation system under the adopted General Plan (referred to as the existing General Plan) without the proposed General Plan Amendment, to the adopted General Plan modified to include the proposed General Plan Amendment for the *Alviso Master Plan*. For the purpose of this analysis, the traffic effects on the roadway system for each case are aggregated into three roadway facility types: freeways, expressways and streets. This comparison examines PM peak-hour vehicle miles traveled (VMT), vehicle hours traveled (VHT), average speeds, and screenline peak-direction volume-to-capacity (V/C) ratios in major travel corridors.

### **System-wide Traffic Impacts**

The impacts of adding new project trips to TRANPLAN can be measured in a number of different ways. These include potential system-wide increases in vehicle miles traveled (VMT) and vehicle hours traveled (VHT), and decreases in average speed overall, as well as localized increases in congestion and impacts to the average levels of service at screenline intersections (discussed in the next section). San Jose's policy has been to define increases of 1.5% (above the adopted General Plan condition) as potentially significant changes. Since the general performance criteria (VMT, VHT, and average speeds) each measure a single aspect of the system, all three must register potentially significant adverse changes for the overall impact to be classified as significant. Each of these criteria was applied to the results of the project's TRANPLAN run, and the results are discussed below. Details of the analysis are found in Appendix E.

#### ***Vehicle Miles Traveled (VMT)***

The VMT statistic reflects the magnitude of vehicle traffic that is served during the PM peak hour by the roadway system. It is developed by multiplying the forecast volume on each link in the modeled highway network by its link length in miles.

Adding trips to a specific location will increase VMT in the immediate vicinity. However, depending on the characteristics of the trips being added, there may be increases or decreases in VMT in other areas. Placing jobs in a predominately residential area or housing in a predominately commercial/industrial area may decrease commute distances with a resulting slight decrease in VMT. Conversely, adding housing to a predominately residential area or adding jobs to a predominately commercial/industrial area generally increases VMT. If the additional trips must travel in the peak direction of a heavily traveled traffic corridor, there will be an additional increase in VMT as trips divert from more desirable shorter routes which are congested to longer, less congested alternative routes.

### *Impact on VMT*

As is generally the case, the changes in VMT varied across the system. There was a significant increase identified for the Alviso area, (3.8%), and slight increases and decreases shown elsewhere. Overall, the changes for the City of San Jose Sphere of Influence result in a slight decrease in VMT, (-0.1%) which is generally an improvement. A slight decrease also registered for the County as a whole (-0.1%)

### *Vehicle Hours Traveled (VHT)*

The VHT statistic, like VMT, refers to the magnitude of vehicle traffic that is served during the PM peak hour by the roadway system. It is developed by multiplying the forecast volume on each link in the modeled highway network by its travel time in minutes and is then converted to hours. It should be kept in mind in this context that the travel time for a particular link reflects its level of congestion.

Adding trips associated with a specific location will increase VHT in the immediate vicinity. However, depending on the characteristics of the trips being added, there may be increases or decreases in VHT in other areas. Placing jobs in a predominately residential area or housing in a predominately commercial/industrial area may decrease commute distances and, therefore, decrease travel time, with a resulting slight decrease in VHT. Conversely, adding housing to a predominately residential area or adding jobs to a predominately commercial/industrial area generally increases VHT. If the additional trips must travel in the peak direction in a heavily traveled traffic corridor there will be an additional increase in VHT as trips either take longer due to increased delays caused by congestion, or divert from shorter but more congested routes to longer but less congested routes.

### *Project Impact on VHT*

Significant increases in VHT are projected for Alviso and the adjacent North San Jose area. The area in and around Alviso is characterized as rich in jobs and is projected to have many congested roadway facilities even under the base case. These changes in VHT can probably be attributed to the increase in travel associated with the additional jobs added to the *Master Plan Area*. Elsewhere, the model predicts both increases and decreases in VHT. Overall, a slight increase (0.2%) in VHT is predicted to result from the implementation of the proposed *Master Plan*. A slight increase (0.1%) is also forecast for the County as a whole.

### *Average Speed*

Changes in average speeds indicate increases or decreases in traffic congestion. As traffic congestion increases, delays increase and average speeds drop. City of San Jose methodology considers a change of one mile per hour to be potentially significant.

### *Project Impact on Average Speed*

Average decreases in speeds would not exceed one mile per hour or more as a result of the increase in jobs under the proposed *Master Plan* compared to the Base Case.

- **Implementation of the proposed *Master Plan* would cause incremental changes in the city-wide transportation and circulation system. These changes would not meet the threshold for significant adverse impacts. (Less Than Significant Impact)**

### **Corridor or Screenline Capacity**

On any highway system, there are areas through which a significant volume of travel occurs, most notably commute trips. In San Jose the major commute is made between job sites in the north and west areas of the County and the residential areas on the east and south sides of the City. Also of importance is the travel corridor through which commuters from the East Bay travel to get to and from job sites in north San Jose, Santa Clara, Sunnyvale and other parts of north and west Santa Clara County. Travel between these areas takes place in "traffic sheds" or "travel corridors", usually defined by a freeway and made up of the freeway and several parallel facilities.

At any point in a given "travel corridor" one can draw a line perpendicular to the corridor's major direction of travel. This line, called a "screenline", can then be used to forecast traffic demand and roadway capacity for all facilities crossing this screenline. A volume-to-capacity (V/C) ratio for the screenline can be calculated and correlated to Level of Service classifications (such as A, B, C), thus measuring the anticipated performance of the corridor at that screenline, during a given period of time (such as the PM peak hour).

Using changes in congestion levels, locations within major travel corridors were identified that warranted screenline analysis. The criteria for performing a screenline analysis are met when three or more parallel facilities, crossing a screenline in a major travel corridor either (a) cross the LOS D/E threshold as a result of proposed alternative or (b) are LOS E or F in the Adopted General Plan Case and become worse due to the buildout of the proposed *Master Plan*.

Several screenlines meeting the criteria were identified as approaching the Level of Service D/E threshold, the threshold of significant negative traffic impact. A summary of the screenline analysis is contained in Appendix E.

The adopted General Plan Case (Base Case Year 2010) showed all screenlines operating at LOS D or better except screenlines 20, 25, and 27.

The proposed *Alviso Master Plan* would not result in a screenline crossing the Level of Service D/E threshold, nor would any of the three screenlines operating at LOS E or F under the Adopted General Plan Case (Base Case Year 2010) become worse due to implementation of the proposed *Master Plan*.

- Implementation of the proposed *Alviso Master Plan* would not result in additional significant traffic congestion through travel corridors based on screenline analysis criteria. (Less Than Significant Impact)

3. **Mitigation for Transportation and Circulation Impacts**

Although implementation of the proposed *Alviso Master Plan* would not result in any significant long-term traffic impacts, the following General Plan measures would reduce potential near-term traffic/circulation impacts of future development projects.

**General Plan Policies**

- ***Level of Service (Traffic) Policy #5*** - The minimum overall performance of City streets during peak travel periods should be level of service "D".
  - Development proposals should be reviewed for their measurable impacts on the level of service and should be required to provide appropriate mitigation measures if they have the potential to reduce the level of service to "E" or worse.
  - To strengthen the neighborhood preservation strategy and objectives of the Plan, the City Council may adopt a Council Policy which establishes alternate mitigation measures for projects whose required traffic mitigation would result in a substantial adverse impact on an affected neighborhood.
  - An "area development policy" may be adopted by the City Council to establish special traffic level of service standards for a specific geographic area which determines development impacts and mitigation measures. Area development policies may be first considered only during the General Plan Annual Review and Amendment Process; however, the hearing on an area development policy may be continued after the Annual Review has been completed and the area development policy may thereafter be adopted or amended at a public meeting at any time during the year.
  - In recognition of the substantial non-traffic benefits of infill development, small infill projects may be exempted from traffic mitigation requirements.
  - In recognition of the unique position of the Downtown Core Area as the transit hub of Santa Clara County, and as the center for financial, business, institutional and cultural activities, development within the area bounded by Julian Street, Fourth Street, Interstate 280 and State Route 87 is exempted from traffic mitigation requirements. Intersections within and on the boundary of this area are also exempted from the level of service "D" performance criteria.

- ***Transportation (Thoroughfares) Policy #1*** - Interneighborhood movement of people and goods should occur on thoroughfares and is discouraged on neighborhood streets.
- ***Transportation (Thoroughfares) Policy #3*** - Public street right-of-way dedication and improvements should be required as development occurs. Ultimate thoroughfare right-of-way should be no less than the dimensions as shown on the Land Use/Transportation Diagram except when a lesser right-of-way will avoid significant social, neighborhood or environmental impacts and perform the same traffic movement function.
- ***Transportation (Thoroughfares) Policy #4*** - Additional public street right-of-way beyond that designated on the Land Use/Transportation Diagram may be required to facilitate left-turn lanes, bus pullouts, and right-turn lanes in order to provide additional capacity at some intersections.
- ***Transportation (Thoroughfares) Policy #8*** - Vehicular and pedestrian safety should be an important factor in the design of streets and roadways.
- ***Transportation (Truck Facilities) Policy #22*** - Through truck traffic should be encouraged to utilize State freeways, County expressways, and six-lane arterial streets. Trucks should be encouraged to use those routes which have the least adverse impact on residential areas.
- ***Transportation (Truck Facilities) Policy #23*** - Industrial and commercial development should be planned so that truck access through residential areas is avoided. Truck travel on neighborhood streets should be minimized.

#### **Other Programmed Mitigation Measures**

Prior to approval of a development proposal, the City would require that project-specific environmental review be done, including a near-term traffic analysis. Measures to reduce traffic impacts could include implementation of Transportation Demand Management (TDM) measures.

***Conclusion:*** Implementation of the General Plan policies and Programmed Mitigation Measures will reduce potential near-term traffic/circulation impacts from implementation of this *Master Plan* to a level of nonsignificance. Specific near term mitigation measures may be required when specific development is proposed.

#### **Mitigation Measures to be Considered at the Time of Future Development**

- **As part of a mitigation program for future development proposals, the City may require that major development(s) establish, or participate in, a shuttle service to existing transit facilities.**



## I. NOISE

The following discussion on noise sources in the *Master Plan Area* was based upon a literature review and field measurements completed by *Thomas Reid Associates*. Potential impacts were evaluated in a noise impact assessment prepared by *Illingworth & Rodkin, Inc.* A copy of the noise impact assessment is included in Appendix F of this EIR.

### 1. Existing Setting

#### Overview

Noise is generally defined as unwanted sound. Sound levels are usually measured and reported in decibels (dB), a unit which describes the amplitude, or extent, of the air pressure changes which produce sound.

A commonly used method used to measure environmental sounds, the A-weighted sound level, evaluates all of the frequencies of a sound, with an extra weight placed on the frequency of sounds to which humans are most sensitive. The decibel level of these "A-weighted" measurements are reported as dBA.

When assessing the overall noise environment of a community, it is important to account for the difference in the response of people to daytime versus nighttime noises. Although nighttime exterior background noises may be lower than during the daytime, people are more sensitive to intrusive noise during the period that most people sleep. To account for human sensitivity to nighttime noise levels, a day/night noise average sound level descriptor,  $L_{dn}$ , is often used.  $L_{dn}$  refers to average day-night noise level in decibels. It averages noise readings over a 24-hour period. To approximate the greater degree of annoyance and importance of noise during nighttime hours, nighttime noise is penalized. The  $L_{dn}$  descriptor divides a day into a daytime period of 7 a.m. to 10 p.m. and a nighttime period of 10 p.m. to 7 a.m. The nighttime noise level is weighted 10dB higher than the daytime noise level. The Community Noise Equivalent (CNEL) is another day/night noise average which includes weighting. A 24-hour day is divided into three time periods with nighttime and evening hours being weighted 10dB and 5dB, respectively.

Noise impact assessments for projects within the City of San Jose are evaluated under the San Jose General Plan Noise Policy Guidelines (City of San Jose, 1994). The goal of the General Plan Guidelines is to "minimize the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies." Using  $L_{dn}$  levels as the standard, the Noise Policy Guidelines identify ranges of noise levels deemed compatible with land uses within the City. The noise guidelines for residential areas and public parks, for example, are more restrictive than for industrial areas.

The General Plan Noise Policy Guidelines are derived from Federal and State legislation and recommendations. The City's General Plan identifies the EPA's standard of 55  $L_{dn}$  for a desirable maximum outdoor noise level as a long-range goal. However, noise studies have shown that a short-range goal of 60  $L_{dn}$  is more realistic for most of the City, given existing noise levels. The General Plan also acknowledges that in the Downtown Core Area and the Airport Impact Area, the short-range goal of 55  $L_{dn}$  and even the long-range goal of 60  $L_{dn}$

may be unobtainable in the foreseeable future. The General Plan noise standard of 45  $L_{dn}$  for indoor noise is patterned after the State standard and applies to interior noise levels when windows are closed. Closed windows typically reduce  $L_{dn}$  by 20 to 25 decibels (dB), assuming standard construction.

General Plan Noise Policies address means of reducing noise generation in the future and mitigating noise impacts on residential and other sensitive land uses. The General Plan Noise Policy Guidelines also outline procedures to be followed when new development is proposed in areas of the City where noise levels exceed the "satisfactory" guideline.

An exterior level of 60 dBA  $L_{dn}$  is considered acceptable for commercial land uses (including office), parks and playgrounds, and an exterior limit of 70 dBA  $L_{dn}$  is considered acceptable for industrial uses. Certain public/quasi-public uses, including hospitals, schools, and libraries, are identified as being particularly noise sensitive and warranting interior levels no greater than 45  $L_{dn}$ . In addition, General Plan policy identifies residential development as being particularly sensitive to noise and establishes 55  $L_{dn}$  as the standard to be maintained at the property line by adjacent uses.

### **Noise Environment of the Master Plan Area**

The community of Alviso and the *Master Plan Area* are geographically remote from the urban nucleus of the City of San Jose. The baseline noise environment of the community is similar to that of a semi-rural suburban area. Noise sources which affect the baseline noise level of the area include:

- vehicle traffic on SR 237, a principal east/west highway on the southern boundary of the *Master Plan Area*;
- local vehicle traffic, especially truck traffic, on the principal roadways of the community;
- aircraft overflights from San Jose Airport;
- industrial uses within the *Master Plan Area*; and
- rail traffic on the Southern Pacific tracks running north/south through the western portion of the *Master Plan Area*.

### ***Roadways***

As noted above, transportation corridors account for much of the noise generated within the *Master Plan Area*. Transportation impacts are principally restricted to day and evening hours. SR 237, recently upgraded to a freeway, has an ADT (average daily traffic level) of 64,000 vehicles with predicted ADT of 73,900 vehicles by the year 2010 (City of San Jose, 1994). The Noise Impact Assessment prepared for the San Jose 2020 General Plan Program EIR developed noise contours along principal roadways including SR 237 and I-880. The study found that property within 1,500 feet of SR 237 could experience noise levels exceeding 60  $L_{dn}$ . The residential area of Alviso south of the Guadalupe River and east of

Gold Street (the existing mobilehome park) is within the contours demarcating a freeway-generated noise level of 60 to 70  $L_{dn}$ .

I-880 is located more than one-half mile east of the study area. No noise sensitive land uses within the Alviso area are within the 60  $L_{dn}$  contour for I-880 and this roadway does not directly impact the study area.

Principal streets and roadways within the study area include Gold Street, First Street, and Zanker Road; all are access roads to SR 237. Grand Boulevard is a principal throughroad and connects First Street to Zanker Road via Los Esteros Road. Grand Boulevard has been used by truck traffic en route to the landfills in the eastern portion of the *Master Plan Area* and to truck yards north of State Street. State Street, while not a major thoroughfare, also carries a great deal of truck traffic. The recent upgrading of SR 237 to freeway configuration may encourage some trucks to bypass the Alviso community by providing an efficient exit at Zanker Road.

### ***Aircraft Overflights***

The residential area of Alviso is approximately five miles from the San Jose International Airport. Previous environmental documents prepared by the Airport showed most of the *Master Plan Area* is outside of the 65 CNEL Noise Contour,<sup>30</sup> the area defined by the General Plan as being unlikely to attain General Plan noise goals. Though outside of this 65 CNEL contour, aircraft overflights contribute to elevating  $L_{dn}$  levels throughout the area. Overflights occur from roughly 6:30 am to 11:30 pm, with as many as 24 overflights of the *Master Plan Area* vicinity in an hour. Apart from airport traffic, background noise levels in Alviso, away from major transportation corridors, are very low. Noise monitoring for this study and a previous study at locations in Alviso, done away from principal ground transportation corridors, found that during 50 percent of the period monitored, noise levels were below 45 dBA<sup>31</sup>. Measured  $L_{dn}$  levels over a 24-hour period were 10 dBA higher, showing the influence of short duration jet overflights on the noise environment of an otherwise quiet community.

### ***Industrial Noise Sources***

Noise generating facilities within the Alviso community include trucking yards, construction yards, mechanics' shops and warehouses. These industrial uses are primarily west of Gold Street, north of State Street, and near Moffatt and Liberty Streets. Some industrial land uses are mixed with residences in the center of the community.

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<sup>30</sup>CNEL is a measurement similar to  $L_{dn}$  except the 24-hour period is divided into three time periods: daytime (7:00 am to 7:00 pm), evening (7:00 pm to 10:00 pm) and nighttime (10:00 pm to 7:00 am). Evening noise is assigned a 5 dB penalty and nighttime noise is assigned a 10 dB penalty. Despite the differences in the distribution of penalties, CNEL and  $L_{dn}$  normally yield very similar results.

<sup>31</sup>dBA refers to decibels measured using the A-scale to approximate the hearing range of the human ear.

The Owens-Corning landfill site is 2,500 feet east of the intersection of Spreckles Avenue and Grand Boulevard. Current activities at the Owens-Corning landfill site include grading and soil movement. The 2,000 foot distance to the closest residences at Grand Boulevard and Spreckles Avenue attenuates noise generated at the Owens-Corning site to levels imperceptible above existing noise levels. Expanded activities and hours of operation are proposed for this landfill site.

The Zanker Road Class III Landfill is approximately 1,200 feet east of the Owens-Corning Landfill. The facility uses several pieces of heavy equipment, including a concrete crusher, but is too remote to significantly contribute to noise levels in residential areas. Other industrial uses in the eastern portion of the *Master Plan Area* which generate noise include the Water Pollution Control Plant on Los Esteros Road, the Newby Island Landfill at the western end of Dixon Landing Road, and agricultural activities west and east of Zanker Road. There are no sensitive land uses adjacent to these facilities.

### ***Railroad Traffic***

Railroad tracks cross the western portion of the study area aligned north to south and fronting El Dorado Street through the community of Alviso. Amtrack Capitol Corridor and Coast Starlight passenger trains pass through the Study Area eight times daily between 6:30 AM and 9:30 PM. Southern Pacific also frequently routes freight traffic to these tracks when rail lines farther east are in service. Freight traffic is not restricted to hours of operations and can pass through the *Master Plan Area* day or night. On an average, two to three freight trains pass through the area daily. One of these trips usually occurs in the nighttime or early morning hours; others usually occur during the day or evening. The spur line to the WPCP is used 1-2 times per week between the hours of 8 am and 12 noon.

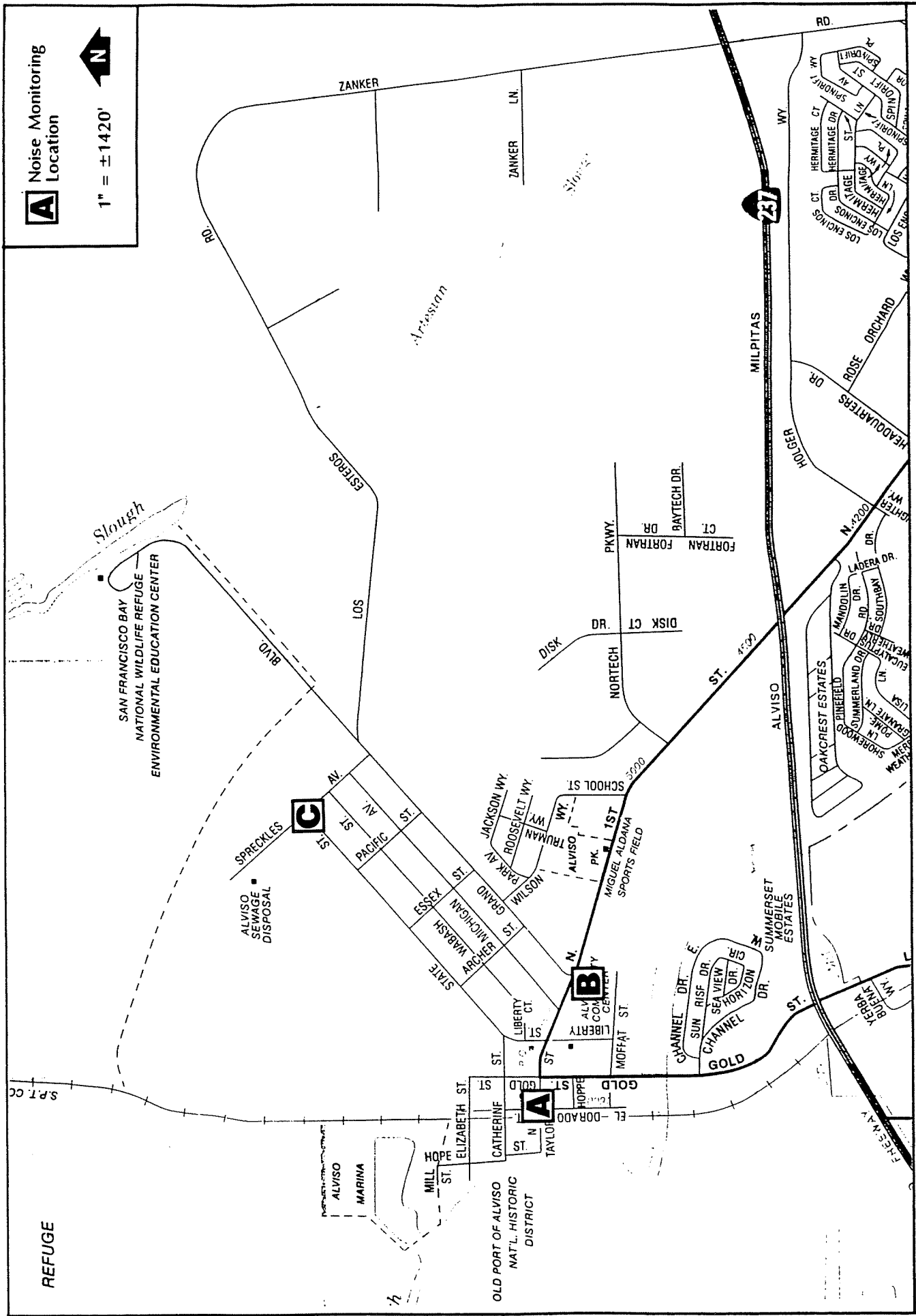
### **Noise Monitoring Results**

Noise levels were sampled at three locations within the community of Alviso to assess existing levels. The locations of these three noise measurements are shown on Figure 22. Sampling was conducted over 24 hours on Tuesday, January 17, 1995 through Wednesday, January 18, 1995. Locations were selected by the City of San Jose to include sites near sensitive receptors and worst case conditions. Given the noise sources at each of the three locations, the samples would provide a high-end parameter to use in describing the local noise environment. All locations are affected to some degree by overflights from the San Jose Airport. During the 24-hour monitoring period, a total of 287 jet and turbo propeller planes took off from San Jose International Airport between the hours of 6:00 am and midnight.<sup>32</sup>

Location A: El Dorado Street at Taylor Street. Location A was selected to represent the maximum exposure to railroad noise in combination with aircraft noise at a residential location. Location A is also affected, to a lesser degree, by street traffic. Noise was sampled for 24 hours with the noise meter placed at street level 30 feet from the center of El Dorado Street and 60 feet from the Southern Pacific Railroad tracks. The land use at Location A is

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<sup>32</sup>Conversation with C. McWilliams, Quality Assurance Office, San Jose International Airport.



NOISE MONITORING LOCATIONS

FIGURE 22

residential with a restaurant on the opposite corner. In other locations along El Dorado Street, land uses include residential, industrial, office, and vacant land.

The results of the sampling at Location A found an  $L_{dn}$  of 74 dBA, reflecting the effect of passenger and freight train traffic, aircraft, and traffic on the adjoining streets. Noise level data were collected in 15 minute intervals. The 15-minute intervals with the highest noise levels demonstrate the affect of rail traffic on vicinity noise levels. When the 15-minute intervals with the highest noise levels are removed from the sample, the  $L_{dn}$  dropped by 9 dB to 65.0 dBA.

The measured  $L_{dn}$  of 74 dBA exceeds the City of San Jose "satisfactory" guideline of 60  $L_{dn}$  for residential uses. Given the assumed attenuation by standard building construction, interior  $L_{dn}$  levels would range from 55.0 to 49.0 dBA, which exceeds the City's interior noise guideline of 45.0  $L_{dn}$ .

Location B: North First Street and Grand Boulevard. Location B was selected to represent the noise environment present at principal intersections of the community. Both Grand Boulevard and First Street are principal thoroughfares, and First Street is a direct access to SR 237. At the time of the measurements, the Gold Street/Lafayette Street overcrossing at SR 237 was still under construction and First Street was serving as the principal access from SR 237 to the Alviso community. Noise measurements were taken approximately 50 feet from the center line of First Street. SR 237 is approximately 2,000 feet to the south of Location B and noise generated by traffic on SR 237 would be attenuated to a level imperceptible above existing noise levels at that distance and would not contribute significantly to monitored noise.

An  $L_{dn}$  of 68.2 dBA was recorded for Location B, which exceeds the City guideline for Residential, Public/Quasi-Public and Commercial Uses, but falls within the "satisfactory" standard for Industrial and Agricultural Uses. Existing land uses in the vicinity of Location B include a storage yard, a vacant lot, and a small store.

Location C: Spreckles Avenue and State Street. Location C was selected as a residential location, not located on a principal thoroughfare, but exposed to local traffic. Location C is affected by residential noise, aircraft overflights and truck traffic en route to the industrial uses at the end of Spreckles Avenue and along the north side of State Street. The overall  $L_{dn}$  recorded for Location C was 64.8 dBA. For 50% of the monitored period ( $L_{50}$ ), noise levels were below 45 dBA, reflecting the almost rural nature of the area. During 10% of the 24-hour period ( $L_{10}$ ) noise levels exceeded 60.5 dBA, demonstrating the influence of aircraft and daytime traffic. The  $L_{dn}$  of 64.8 dBA exceeds the City guideline of 60  $L_{dn}$  for residential uses. Interior  $L_{dn}$  levels for Location C would range from 39.8 dBA to 44.8 dBA, and would meet the City standard of 45  $L_{dn}$ . This noise level is probably typical for the perimeter residential streets in the neighborhood.

A previous 24-hour noise level sampled on October 5 and October 6, 1994, for this general vicinity confirms the findings at Location C. An  $L_{dn}$  of 60.9 was recorded for Michigan Avenue near the intersection of Pacific Street (Thomas Reid Associates, 1994). Michigan Avenue is a residential street two blocks from Location C but not subject to the heavy vehicle traffic from industrial uses on State Street and Spreckles Avenue. This sample result



was essentially in compliance with the 60  $L_{dn}$  exterior City guideline and with interior levels ranging from 35.9 to 40.9, would comply with City interior noise guidelines.

The results of these two samples indicate the quietest residential areas of Alviso probably have a noise environment approaching or meeting the City residential guideline of 60  $L_{dn}$ . In these quietest areas, aircraft noise would be the most noticeable noise source. In residential areas also subject to truck traffic, exterior noise levels at the street property line would exceed the City guidelines. Given the distance and buffering by buildings, rear yard noise levels for the same properties should meet the City guidelines.

## **Vibration**

Train operations on the Southern Pacific Railroad tracks produce vibration at adjacent sites and structures. The degree to which people are affected is dependent upon the type of structure, railbed and soil characteristics and the nearby site uses. Vibration levels that are perceptible and potentially cause annoyance are much lower than levels of vibration at which structural damage to buildings would occur.

The Southern Pacific Railroad main line tracks border residential, commercial, and industrial uses within the *Master Plan Area*.

## **2. Noise Impacts**

### **Thresholds of Significance**

For the purposes of this project, a noise impact is considered significant if the project will:

- result in a substantial change in the ambient noise levels; or
- generate noise that will result in a conflict with established plans and policies; or
- expose people to noise levels in excess of established standards.

### **Future Noise Impacts**

#### ***Noise Impacts on Existing Streets***

The change in land uses anticipated under the proposed *Alviso Master Plan* will result in traffic volumes different than anticipated by the current General Plan. However, a comparison of the traffic volumes under the existing General Plan and the proposed *Alviso Master Plan* indicate that these changes will result in less than a three decibel increase in the noise level along any of the streets studied and less than one decibel along the streets that pass through existing residential areas within the project site. South of Route 237, the traffic noise level increases would be less than one decibel in all locations. The noise level changes for existing receptors would be undetectable and would not be considered a significant impact.

- **Traffic generated by buildout of the site would increase noise levels on the local street system. Future traffic, however, will not cause noise levels to increase**

perceptibly beyond anticipated levels associated with buildout of the existing General Plan. (Less Than Significant Impact)

### ***Impacts to Residential Areas***

The *Alviso Master Plan* would introduce development in currently undeveloped areas. In some cases, this will result in industrial development that would be adjacent to existing or planned residential development and to the existing park and school. Likewise, future residential development could be built near or adjacent to existing industrial sites. The *Mixed Use* designation is also likely to result in commercial and industrial uses in close proximity to residential development. Depending upon the types of uses developed, there is a possibility of high noise generating activities being located adjacent to sensitive land uses. Specific activities such as manufacturing, and outdoor activities that include loading docks, trucks idling, air conditioning and/or refrigeration equipment, could cause significant noise impacts. An increase in noise levels from new development that would result in an  $L_{dn}$  of or in excess of 55 dBA at the property line of a property developed or planned for residential uses, would represent a significant noise impact.

- **The proposed plan could introduce new noise sources adjacent to existing or planned residential development, exposing residents to noise levels in excess of acceptable levels established by City goals and policies. (Significant Impact)**

### ***Impacts to Future Development Projects***

The land use proposed by the *Master Plan Area* at locations where ambient noise levels exceed an  $L_{dn}$  of 60 dBA include commercial, industrial, and open space. These land uses are compatible with a CNEL of up to 70 dBA, although the General Plan states that when the new development requires a full EIR, an acoustical analysis should be made indicating the amount of attenuation necessary to maintain an indoor level of  $L_{dn}$  less than or equal to 45 dBA. For sites with such high noise levels, onsite outdoor activity should be limited to acoustically protected areas. Except for buildings nearest SR 237, it is unlikely that anything more than standard building construction would be required to maintain acceptable indoor levels.

- **Noise levels in the *Alviso Master Plan Area* are compatible with the proposed land uses, assuming that the buildings are of typical construction. (Less Than Significant Impact)**

Passenger and freight trains on the Southern Pacific railroad line produce vibration that would primarily effect properties which are within a short distance of the railroad tracks. Along this railroad line, vibration may be perceptible to adjacent uses, but would not cause structural damage to buildings. There are no potentially sensitive vibration receptors, such as residential uses, schools, or vibration sensitive industrial uses, proposed adjacent to the SP railroad line as a part of the *Master Plan*.

- **Buildings nearest the Southern Pacific railroad may be exposed to vibration; there are no new, potentially sensitive, vibration receptors proposed under the *Master Plan* for locations near the railroad. (Less Than Significant Impact)**

### ***Future Project Construction Noise***

The vast majority of the undeveloped portions of the *Master Plan Area* is far from any existing residential uses and would not impact existing land uses. In those areas near residences, construction of future projects would temporarily increase noise levels for adjacent residential development. In general, construction noise impacts would be temporarily significant for projects within 1,000 feet of existing residential development, or the existing school or library.

In addition to the noise sources associated with typical construction projects, which generally consist of grading equipment, hammering, nail guns, and engine noise, soil conditions in the Alviso area may require pile driving for some construction projects. Pile driving can generate extremely loud noise levels, and is accompanied by strong vibration impacts as well. Those sites most likely to require driven piles would include closed landfills and site containing Bay Mud. Although pile driving would be a temporary activity, it is of sufficient intensity to constitute a significant source of noise and vibration impacts for nearby residences, other sensitive land uses such as the library and school, and could create a significant disturbance of nearby wildlife habitat during the breeding season.

- **Construction noise associated with new development could temporarily increase noise levels in existing residential development. Pile driving near or adjacent to sensitive land uses could create significant noise or vibration impacts. (Significant Impact)**

### **3. Mitigation for Noise Impacts**

#### **General Plan Policies**

The following General Plan policies would provide mitigation for future potential noise impacts.

- **Noise Policy #1** -The City's acceptable noise level objectives are 55 DNL as the long-range exterior noise quality level, 60 DNL as the short-range exterior noise quality level, 45 DNL as the interior noise quality level, and 76 DNL as the maximum exterior noise level necessary to avoid significant adverse health effects. These objectives are established for the City, recognizing that the attainment of exterior noise quality levels in the environs of the San Jose International Airport and in the Downtown Core Area will probably not be achieved in the time frame of this Plan. To achieve the noise objectives, the City should require appropriate site and building design, building construction and noise attenuation techniques in new residential development.
- **Noise Policy #9** - Construction operations should use available noise suppression devices and techniques.

- *Noise Policy #11* - When located adjacent to existing or planned noise sensitive residential and public/quasi-public land uses, non-residential land uses should mitigate noise generation to meet the 55 DNL guideline at the property line.
- *Noise Policy #12* - Noise studies should be required for land use proposals where known or suspected peak event noise sources occur which may impact adjacent existing or planned land uses.
- *Urban Design Policy #18* - To the extent feasible, sound attenuation for development along City streets should be accomplished through the use of landscaping, setback and building design rather than the use of sound attenuation walls. Where sound attenuation walls are deemed necessary, landscaping and an aesthetically pleasing design shall be used to minimize visual impact.
- *Urban Design Policy #21* - To promote safety and to minimize noise impacts in residential and working environments, development which is proposed adjacent to railroad lines should be designed to provide the maximum separation between the rail line and dwelling units, yards or common open space areas, offices and other job locations, facilities for the storage of toxic or explosive materials and the like. To the extent possible, areas of development closest to an adjacent railroad line should be devoted to parking lots, public streets, peripheral landscaping, the storage of non-hazardous materials and so forth.

In industrial facilities, where the primary function is the production, processing or storage of hazardous materials, development should follow the setback guidelines and other protective measures called for in the City's Industrial Design Guidelines when such facilities are to be located adjacent to or near a main railroad line.

#### **Other Programmed Mitigation Measures**

- ❖ All attached residential development must provide proof prior to issuance of building permits that interior noise levels will comply with State Title 24. This must be include a project-specific noise analysis that verifies that the proposed construction will not exceed 45  $L_{dn}$ .
- ❖ Title 24, Part 2, of the California Administrative Code, enforced by the City's Planning and Building Departments, establishes a maximum allowable interior  $L_{dn}$  noise level of 45 dBA for new multi-family residences, hotels, motels, and long-term care facilities exposed to existing or future noise levels of 60 dBA  $L_{dn}$  or greater. An acoustical report detailing noise control treatments necessary for compliance with Title 24 must be prepared and submitted to the City prior to issuance of a building permit.
- ❖ The City Zoning Ordinance sets noise performance standards for the industrial park zoning district, measured at the project boundary.

**Conclusion:** Conformance with existing General Plan policies and with existing ordinances will ensure that satisfactory noise conditions are maintained for all future

development throughout the *Alviso Master Plan Area*. **(Less Than Significant Impact With Mitigation)**

Use of pile drivers during construction for some building foundations could cause significant noise impacts to residences and other sensitive uses. **(Significant Unmitigated Impact)**

#### **Mitigation Measures to be Considered at the Time of Future Development**

- As part of the design review process associated with any specific development within the *Master Plan Area*, the City of San Jose will require that a project-specific noise analysis be done, identifying specific techniques for meeting the City noise guidelines for the specific uses proposed. These techniques may include, but are not limited to, the following:
  - Maintaining a minimum setback distance from all noise sources;
  - Providing noise attenuation in building shells, including thicker glass, greater insulation, and mechanical ventilation.
- At the time of project development approval, the City of San Jose will consider appropriate mitigation for reducing potential construction noise impacts to residential areas. This may include the following:
  - Construction equipment used on the site will be adequately muffled and maintained.
  - Construction shall be limited to the hours of 7:00 A.M. to 7:00 P.M. Monday through Friday for any on-site or off-site work within 500 feet of any residential unit.
  - Methods for reducing noise from pile driving will be considered when pile driving is proposed in close proximity to sensitive uses. There is, at this time, no technology known to be available that would reduce such noise to a less than significant level.

#### **Significant Unmitigated Impact**

Use of pile drivers during construction for some building foundations could cause significant noise impacts to residences and other sensitive uses. **(Significant Unmitigated Impact)**

## **J. AIR QUALITY AND ODOR**

The following discussion on air quality and odor was based upon an air quality impact analysis prepared by *Donald Ballanti, Certified Consulting Meteorologist*. Additional information was provided by *Thomas Reid Associates*. A copy of the air quality impact analysis is included in Appendix G.

### **1. Existing Setting**

#### **Climate**

The climate of the San Francisco Bay region is classified as Mediterranean, with little or no precipitation during the summer months and moderate precipitation during the winter months. This climate is controlled primarily by the Pacific High. The Pacific High migrates northward during the summer months, holding storm tracks well to the north. During the winter months, the Pacific High migrates southward permitting storm centers to swing into and across California.

Another characteristic of the climate of the San Francisco Bay region is the summertime fog. The fog is often swept inland by the prevailing northwest winds originating from the Pacific High. Characteristically, the fog extends inland farther during the night, receding to the vicinity of the coast during the day.

Long-term records of meteorological data are available from the National Weather Service office. The meteorological stations closest to the site are at San Jose, Newark, and Moffett Field Naval Air Station. The San Jose site measured a minimum temperature of 41° F during the month of January in contrast to the maximum of 81.5° F measured in July. The mean annual temperature is 59.7° F.

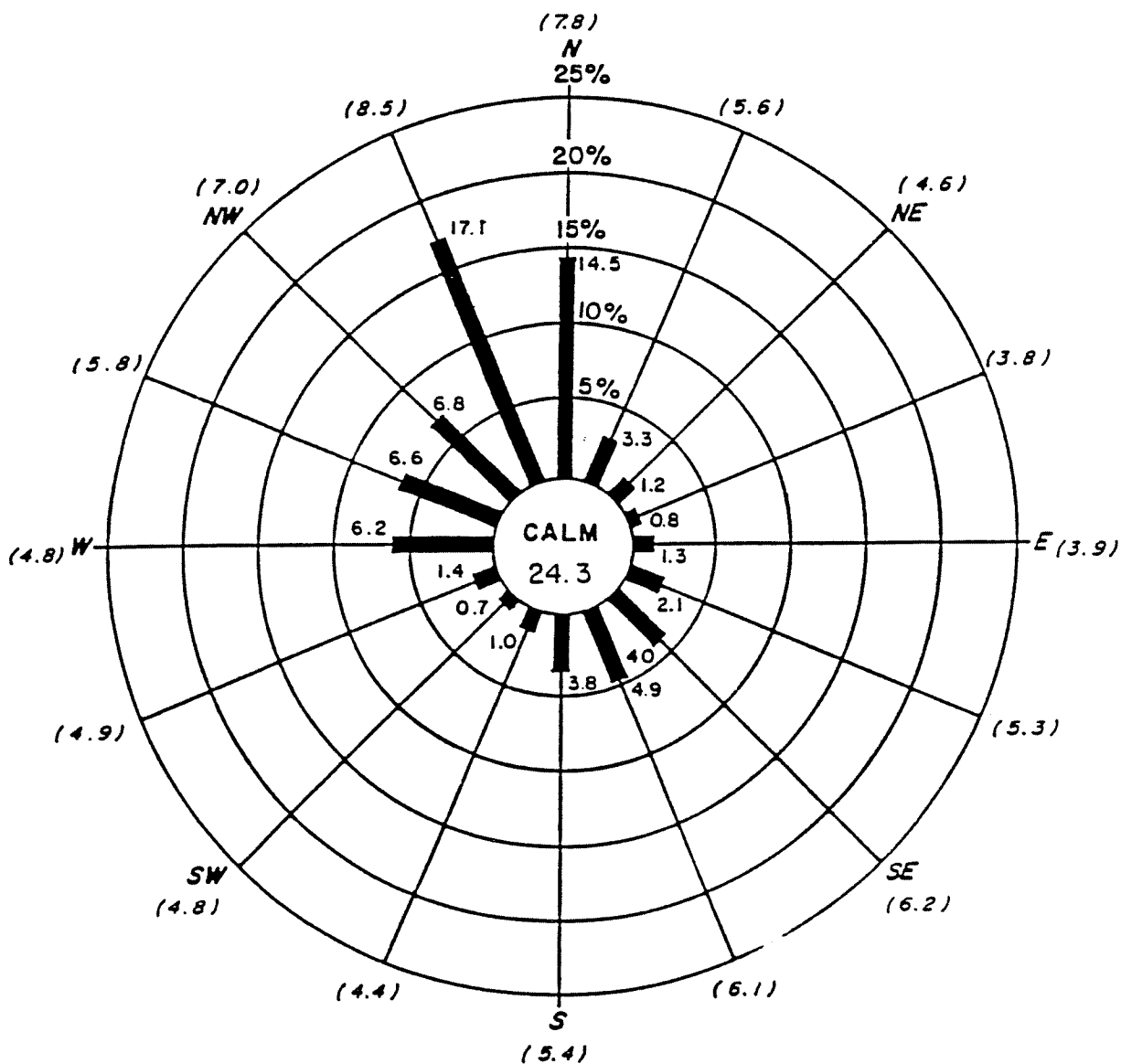
Precipitation measurements taken between 1951 and 1989 at the San Jose monitoring site show a normal annual precipitation of 13.86 inches. The site receives approximately 95% of the annual precipitation between the months of October and April.

In the project area, northwesterly winds enter through the Golden Gate and predominate during the year. These winds channel down to the southeast creating the flow experienced in the South Bay and the Alviso area. Wind speed and direction data from the Moffett Field site have been analyzed for the period from 1973 to 1982 (see Figure 23). The data indicate that the prevailing winds blow from north northwest 17% of the time and from the north 14.5% of the time. Calm conditions occur 24.3% of the time.

#### **Air Pollution Climatology**

The amount of a given pollutant in the atmosphere is determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sunshine.





station: No. 23244  
 location la: 37°25'N lo: 122°03'W  
 period: January 73 - December 82  
 no. of observations: 29,187  
 frequency: Hourly

REFERENCE:  
 Department of the Navy, Summary of  
 Meteorological Observations, Surface,  
 Job No. 72006, November 1983.

NOTE:  
 ( 7.8 ) Indicates mean wind speed in miles per hour.

Northwest winds and northerly winds are most common in the project area, reflecting the orientation of the Bay and the San Francisco Peninsula. Winds from these directions carry pollutants released by autos and factories from upwind areas of the Peninsula toward San Jose, particularly during the summer months. Winds are lightest, on the average, in fall and winter. Every year in fall and winter there are periods of several days when winds are very light and local pollutants can build up.

Pollutants can be diluted by mixing in the atmosphere both vertically and horizontally. Vertical mixing and dilution of pollutants are often suppressed by inversion conditions, when a warm layer of air traps cooler air close to the surface. During the summer, inversions are generally elevated above ground level, but are present over 90 percent of the time in both the morning and afternoon. In winter, surface-based inversions dominate in the morning hours, but frequently dissipate by afternoon.

Topography can restrict horizontal dilution and mixing of pollutants by creating a barrier to air movement. The South Bay has significant terrain features that affect air quality. The Santa Cruz Mountains and Hayward Hills on either side of the South Bay restrict horizontal dilution, and this alignment of the terrain also channels winds from the north to south, carrying pollution from the northern Peninsula toward San Jose.

The combined effects of moderate ventilation, frequent inversions that restrict vertical dilution and terrain that restrict horizontal dilution give San Jose a relatively high atmospheric potential for pollution compared to other parts of the San Francisco Bay Air Basin.

### **Ambient Air Quality Standards**

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. Table 13 identifies the major criteria pollutants, characteristics, health effects and typical sources.

The federal and California state ambient air quality standards are summarized in Table 14 for important pollutants. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and PM-10.[Note: PM-10 refers to particulate matter (e.g., dust and soot particles) less than 10 microns in size. A micron is one millionth of a meter.]

The U.S. Environmental Protection Agency has recently announced new national air quality standards for ground-level ozone and for fine Particulate Matter. The existing 1-hour ozone standard of 0.12 PPM will be phased out and replaced by an 8-hour standard of 0.08 PPM. New national standards for fine Particulate Matter (diameter 2.5 microns or less) have also been established for 24-hour and annual averaging periods.

**TABLE 13**  
**Major Criteria Pollutants**

<b>Pollutant</b>	<b>Characteristics</b>	<b>Health Effects</b>	<b>Major Sources</b>
Ozone	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen. Often called photochemical smog.	<ul style="list-style-type: none"> <li>● Eye Irritation</li> <li>● Respiratory function impairment.</li> </ul>	The major sources ozone precursors are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	<ul style="list-style-type: none"> <li>● Impairment of oxygen transport in the bloodstream.</li> <li>● Aggravation of cardiovascular disease.</li> <li>● Fatigue, headache, confusion, dizziness.</li> <li>● Can be fatal in the case of very high concentrations.</li> </ul>	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	Reddish-brown gas that discolors the air, formed during combustion.	<ul style="list-style-type: none"> <li>● Increased risk of acute and chronic respiratory disease.</li> </ul>	Automobile and diesel truck exhaust, industrial processes, fossil-fueled power plants.
Sulfur Dioxide	Sulfur dioxide is a colorless gas with a pungent, irritating odor.	<ul style="list-style-type: none"> <li>● Aggravation of chronic obstruction lung disease.</li> <li>● Increased risk of acute and chronic respiratory disease.</li> </ul>	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
Particulate Matter	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time.	<ul style="list-style-type: none"> <li>● Aggravation of chronic disease and heart/lung disease symptoms.</li> </ul>	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.

<b>TABLE 14</b> <b>Federal and State Ambient Air Quality Standards</b>			
<b>Pollutant</b>	<b>Averaging Time</b>	<b>Federal Primary Standard<sup>33</sup></b>	<b>State Standard</b>
Ozone	1-Hour	0.12 PPM	0.09 PPM
Carbon Monoxide	8-Hour 1-Hour	9.0 PPM 35.0 PPM	9.0 PPM 20.0 PPM
Nitrogen Dioxide	Annual Average 1-Hour	0.05 PPM --	-- 0.25 PPM
Sulfur Dioxide	Annual Average 24-Hour 1-Hour	0.03 PPM 0.14 PPM --	-- 0.05 PPM 0.25 PPM
PM-10	Annual Average 24-Hour	50 µg/m <sup>3</sup> 150 µg/m <sup>3</sup>	30 µg/m <sup>3</sup> 50 µg/m <sup>3</sup>
PM2.5	Annual 24-Hour	15 µg/m <sup>3</sup> 65 µg/m <sup>3</sup>	-- --

### Ambient Air Quality

The Bay Area Air Quality Management District (BAAQMD) monitors air quality at several locations within the San Francisco Bay Air Basin. The monitoring site closest to the project site is in downtown San Jose. Table 15 summarizes exceedances of State and Federal standards at the downtown San Jose monitoring site during the period 1994-1996. Table 15 shows that ozone and PM-10 exceed the state standards in the project area. Violations of the carbon monoxide standards had been recorded at the downtown San Jose site prior to 1992.

Of the three pollutants known to at times exceed the state and federal standards in the project area, two are regional pollutants. Both ozone and PM-10 are considered regional pollutants in that concentrations are not determined by proximity to individual sources, but show a relative uniformity over a region. Thus, the data shown in Table 15 for ozone and PM-10 provide a good characterization of levels of these pollutants on the project site.

Carbon monoxide is a local pollutant, i.e., high concentrations are normally only found very near sources. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes.

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<sup>33</sup>PPM = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

The data shown in Table 15 for carbon monoxide are not necessarily representative of concentrations that would be found near the proposed project site. For this reason, concentrations of carbon monoxide have been estimated using a computer simulation model that predicts concentrations based on information on roadway locations, traffic volumes and traffic conditions. The results of this analysis are described in this section under *Air Quality Impacts*.

<b>TABLE 15</b> <b>Summary of Air Quality Data for Downtown San Jose<sup>34,35</sup></b>				
Pollutant	Standard	Days Exceeding Standard in:		
		1994	1995	1996
Ozone	Federal 1-Hour	0	1	0
Ozone	State 1-Hour	3	14	5
Carbon Monoxide	State/Federal 8-Hour	0	0	0
PM-10	Federal 24-Hour	0	0	0
PM-10	State 24-Hour	10	4	2

### Attainment Status and Regional Air Quality Plans

The federal Clean Air Act and the California Clean Air Act of 1988 require that the State Air Resources Board, based on air quality monitoring data, designate portions of the state where the federal or state ambient air quality standards are not met as "nonattainment areas". Because of the differences between the national and state standards, the designation of nonattainment areas is different under the federal and state legislation.

#### *Federal Air Quality Program*

The Bay Area is currently a nonattainment area only for carbon monoxide. However, the U.S. Environmental Protection Agency has proposed reclassifying the Bay Area from "maintenance area" to nonattainment for ozone also based on recent violations of the federal standards at several locations in the air basin. This would reverse the air basin's

<sup>34</sup> California Air Resources Board, California Air Quality Data, Annual Summaries, 1994-1995.

<sup>35</sup> Bay Area Air Quality Management District, Air Currents, April 1997.

reclassification to "maintenance area" for ozone in 1995. Reclassification would require an update to the region's federal air quality plan.

The revisions to the national ambient standards for ozone and Particulate Matter have no immediate effect on nonattainment planning. Existing ozone and Particulate Matter designations will remain in effect until U.S. E.P.A establishes new designations based on any new ozone or Particulate Matter standard. Final promulgation of guidance for development of nonattainment plans for any new ozone or Particulate Matter standard is scheduled for June of 1999.

### ***State Air Quality Program***

Under the California Clean Air Act Santa Clara County is a nonattainment area for ozone and PM-10. The county is either in attainment or unclassified for other pollutants.

The California Clean Air Act requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or if not, provide for adoption of "all feasible measures on an expeditious schedule".

The current area-wide plan required by the California Clean Air Act was adopted in October 1994.<sup>36</sup> The Plan proposes the imposition of controls on stationary sources (factories, power plants, industrial sources, etc.) and Transportation Control Measures designed to reduce emissions from automobiles. Since the Plan does not provide for a 5% annual reduction in emissions, it proposes the adoption of "all feasible measures on an expeditious schedule".

### **Sensitive Receptors**

The BAAQMD defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, schools playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. Sensitive receptors within the *Master Plan Area* include an elementary school and numerous residences.

### **Air Pollution/Odor Sources**

A review of major air pollutant sources and inventoried sources of Toxic Air Contaminants (TAC) revealed three major sources of criteria and/or toxic contaminants within the *Master Plan Area*. The Newby Island landfill operation and San Jose/Santa Clara Water Pollution Control Plant are both considered major emitting facilities by the BAAQMD.<sup>37</sup> These two facilities as well as the Zanker Road landfill are also identified as sources of Toxic Air Contaminants in the BAAQMD inventory of TAC emitters but none were identified as

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<sup>36</sup> Bay Area Air Quality Management District, Bay Area '94 Clean Air Plan (CAP), 1994.

<sup>37</sup> Bay Area Air Quality Management District, Base Year 1990 Emission Inventory Summary Report, 1993.



facilities with health risks requiring public notification under the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB-2588).<sup>38</sup>

The San Jose/ Santa Clara Water Pollution Control Plant has been the source of odor complaints in the Alviso area in the past. Other major potential sources of odors include the Zanker Road and Newby Island landfills. Sewer line vents/manholes, mud flats at low tide, local agricultural activities and salt ponds are additional intermittent sources of localized odors.

### *Nuisance Odors*

BAAQMD is responsible for responding to complaints concerning air pollution and odors under the State's public nuisance law. The California Health and Safety Code (Section 41700) defines public nuisance as a "discharge of air contaminants which cause injury, detriment, nuisance or annoyance to any considerable number of persons." The District considers that the "considerable number of persons" requirement is normally satisfied when five different individuals make separate complaints on a single day, with one household representing one complaint. When a public nuisance or other violation occurs, an inspector issues a violation to the source responsible. Violations may be settled out of court by the payment of a prescribed penalty. The maximum penalty can be as much as \$25,000 for each day of violation if no corrective action is taken within a reasonable period of time.

The WPCP, which is located approximately 3,000 feet from the nearest residence ( at the corner of Spreckles Avenue and Grand Boulevard) has been a past source of odor complaints in the Alviso area. According to BAAQMD records, during the period from June 1991 through July 1994, 11 complaints were made by local citizens to BAAQMD; no Notice of Violation citations were issued to the WPCP, however. While unpleasant, the odors generated by the sludge drying ponds and other treatment processes are considered a nuisance, and not a hazard. One reported odor complaint was for chlorine. Sometimes small amounts of gas escape when a new supply car is being connected to the WPCP system. Detection sensors at the WPCP are triggered at two parts per million, which is well below hazardous levels (see additional discussion on chlorine in Section D, Public Health and Safety).

Other nuisance odors generated within the *Master Plan Area* are associated with local landfills, local agricultural activity, sewer line vents/manholes, mud flats at low tide, and salt ponds. Odors generated by landfills are typically associated with decomposing garbage, and at times, compost processing. Only Zanker Road and Newby Island Landfills have these activities onsite; both facilities are located east/northeast of the existing residential areas of Alviso.

Depending upon wind conditions, sewer line vents/manholes and nearby agricultural activities throughout the *Master Plan Area* can all create odors. The natural bay ecosystem as well as biological decay processes ongoing at local salt ponds (both to the west and northwest of the town) also generate periodic smells.

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<sup>38</sup> Bay Area Air Quality Management District, 1995 Toxic Air Contaminant Annual Report, 1997.

## 2. Air Quality Impacts

### Thresholds of Significance

For the purposes of this project, a air quality impact is considered significant if the project will:

- Violate an ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations;<sup>39</sup> or
- Result in substantial emissions or deterioration of ambient air quality; [The significance thresholds recommended by the BAAQMD are considered to represent “substantial” emissions. These thresholds are 80 pounds per day for all regional air quality pollutants except carbon monoxide. The significance threshold for carbon monoxide is 550 pounds per day, although exceedance of this threshold only triggers the need for estimates of carbon monoxide “hot spot” concentrations. A substantial contribution to an existing carbon monoxide exceedance would be defined as greater than 0.1 parts per million, based on the accuracy of the monitoring instruments] or
- Create objectionable odors; or
- Alter air movement, moisture, or temperature, or result in any change in climate either locally or regionally.

### Local Impacts

#### *Land Use Impacts*

Development of the Alviso area under the proposed *Master Plan* has the potential to indirectly result in air quality impacts. Specifically, new land uses will be locating in an area affected by existing sources of air pollution and odors. Additionally, development under the proposed *Master Plan* could result in creation of new sources of pollution that would affect nearby properties.

The project does not appear to increase the potential for odor nuisance complaints beyond that associated with increased population. Development under the proposed *Master Plan* would place new residential development farther away from existing major potential odor sources than the current 3,000 foot minimum distance.

There are two land use designation changes included in the proposed project that could potentially result in air-related land use conflicts. The designation of areas southwest of Spreckles Avenue as Light Industrial and areas north and east of George Mayne School as Industrial Park create the potential for new sources of Toxic Air Contaminants locating in proximity to sensitive receptors.

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<sup>39</sup>For localized pollutants such as carbon monoxide, an increase in predicted concentrations that would cause a new violation of the most stringent State or Federal standard (20.0 PPM for one-hour, 9.0 PPM for eight-hours) or contribute substantially to an existing violation of the standards.

Any new sources of Toxic Air Pollutants would be subject to the New Source Review requirements of the BAAQMD. If emissions from a proposed source exceed certain thresholds, projects will need to apply Best Available Control Technology. District regulations also require air toxics new source review for any sources of listed materials.

Special rules exist regarding approval of new industrial facilities within one-fourth mile of a school. Facilities that “might reasonably be anticipated to emit hazardous or acutely hazardous air emissions or which would handle acutely hazardous material” above specified limits cannot be approved without written notification to the school district.<sup>40</sup>

Land-use related air quality impacts are considered to be potentially significant. Significant impacts could occur, but it is unknown at this time what, if any, users of Toxic Air Contaminants might locate in those portions of the proposed industrial areas adjacent sensitive receptors.

In addition to new industrial sources of toxic air contaminants, there are several identified local sources of potentially hazardous air pollutants within the *Master Plan Area*. Potential emissions of airborne asbestos, bioaerosols, and emergency releases of hazardous materials from the WPCP are described in Section II. D., Public Health and Safety.

- **Future industrial uses allowed under the *Master Plan* could release toxic air contaminants that pose health risks to nearby sensitive land uses, including residential uses and George Mayne Elementary School. (Significant Impact)**

### ***Traffic Impacts***

On the local scale, the project would change traffic on the local street network and within the site’s internal roads and parking areas. Carbon monoxide levels along roadways used by project traffic would also be changed. Carbon monoxide is an odorless, colorless poisonous gas whose primary source in the Bay Area is automobiles. Concentrations of this gas are generally highest near intersections of major roads because of the amount of idling, acceleration and deceleration occurring.

A screening form of the CALINE-4 computer simulation model was applied to three intersections affected by land use development under the *Master Plan*. The model results were used to predict the maximum 1-and 8-hour concentrations, corresponding to the 1- and 8-hour averaging times specified in the state and federal ambient air quality standards for carbon monoxide. The CALINE-4 model and the assumptions made in its use for this project are described in Appendix G.

Table 16 shows the results of the CALINE-4 analysis for the peak 1-hour and 8-hour traffic periods in parts per million (PPM). The 1-hour values are to be compared to the federal 1-hour standard of 35 PPM and the state standard of 20 PPM. The 8-hour values in Table 16 are to be compared to the state and federal standard of 9 PPM.

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<sup>40</sup>California Health and Safety Code, Section 21151.4.

Table 16 shows that worst-case year 2010 concentrations are not predicted to exceed the state or federal ambient air quality standards for carbon monoxide. The project would have a less-than-significant impact on local carbon monoxide concentrations.

<b>TABLE 16</b> <b>Predicted Year 2010 Worst-Case Carbon Monoxide Concentrations</b> <b>at Selected Intersections, in Parts Per Million</b>				
Intersection	Base Case (2010)		Master Plan (2010)	
	1-Hour	8-Hour	1-Hour	8-Hour
Great America/ SR 237 East	6.3	4.6	6.1	4.4
N. First Street/ SR 237 East	8.7	6.4	9.4	6.7
Zanker Road/ SR 237 East Ramps	10.2	7.3	11.4	8.1
Most Stringent Standard	20.0	9.0	20.0	9.0

### Regional Impacts

New vehicle trips to and from project land uses would result in air pollutant emissions affecting the entire San Francisco Bay air basin. Regional emissions associated with project vehicle use has been calculated using the URBEMIS-5 computer program. The URBEMIS-5 program and the assumptions made in its use are described in Appendix G.

The estimated incremental daily emissions associated with new traffic generated by the anticipated growth in population and employment within the *Master Plan Area* for the proposed project are shown in Table 17 below for Reactive Organic Gases and Nitrogen Oxides (two precursors of ozone) and PM-10.

Guidelines for the evaluation of project impacts issued by the BAAQMD consider emission increases to be significant if they exceed 80 lbs per day for any regional pollutant.<sup>41</sup> Emissions for the proposed project and the existing General Plan shown in Table 17 would exceed this criterion for nitrogen oxides and PM-10, so the proposed project would all have a significant effect on regional air quality.

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<sup>41</sup> Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, 1996.

<p align="center"><b>TABLE 17</b> <b>Regional Emissions in Pounds Per Day</b></p>			
<b>Alternative</b>	<b>Reactive Organic Gases</b>	<b>Nitrogen Oxides</b>	<b>PM-10</b>
Proposed Project	61.0	104.2	165.6
BAAQMD Significance Threshold	80.0	80.0	80.0

### **Construction-Related Impacts**

Construction activities associated with development of designated land uses and related infrastructure would generate pollutants intermittently. The proposed *Master Plan* would increase the acreage of developed lands in Alviso, increasing construction impacts compared to development under the existing General Plan.

The effects of construction activities would be increased dustfall and locally elevated levels of PM<sub>10</sub> near the site of construction activity. Depending on the weather, soil conditions, the amount of activity taking place and nature of dust control efforts these impacts could affect existing or future uses within or near the project. Because of this variability, construction dust impacts are considered to be potentially significant on a localized basis.

- **Air quality impacts resulting from construction allowed under the proposed *Master Plan*, particularly generation of construction dust, could cause significant adverse effects to nearby land uses. (Significant Impact)**

### **3. Mitigation for Air Quality Impacts**

#### **General Plan Policies**

The following General Plan policies would provide mitigation for air quality impacts.

- *Air Quality Policy #1* - The City should take into consideration the cumulative air quality impacts from proposed developments and should establish and enforce appropriate land uses and regulations to reduce air pollution consistent with the region's Clean Air Plan and State law.
- *Transportation System Management/Transportation Demand Management Policy #20* - The City should promote participation and implementation of appropriate Transportation Demand Management measures such as carpooling and vanpooling, preferential parking and staggered work hours/flextime, as well as bicycling and walking, by all employers.

## Other Programmed Mitigation Measures

- ❖ Any future development under the proposed General Plan designation would be subject to the City's Grading Ordinance; all earth moving activities would include provisions to control fugitive dust, including regular watering of the ground surface, cleaning nearby streets, and planting any areas left vacant for extensive periods of time.

**Conclusion:** Development of the proposed *Master Plan Area* in conformance with General Plan policies would result in significant regional air quality impacts, and could result in the location of significant sources of toxic airborne substances upwind of and within one-quarter mile of a sensitive receptor (an elementary school). **(Significant Unmitigated Impact)**

### Possible Mitigation Not Proposed At This Time

#### *Mitigation for Local Land-Use Related Impacts*

The impacts of project land use designations that place industrial uses adjacent to and upwind of sensitive receptors can be substantially reduced or eliminated by modifying the proposed project in one of the following ways:

- Establish a buffer zone between industrial uses and sensitive receptors by creating a transitional industrial overlay wherein sources of Toxic Air Contaminants are not permitted.
- Establish a buffer zone between industrial uses and sensitive receptors by redesignating areas near sensitive receptors to non-industrial uses.

### Mitigation to be Considered at the Time of Future Development

#### *Mitigation for Construction Impacts*

The severity of project-related construction period air quality (dust and particular) impacts can be reduced to a less than significant level through implementation of the following control measures:

- Water all active construction areas at least twice daily.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.

- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more.
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.)
- Limit traffic speeds on unpaved roads 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

### ***Mitigation Measures to Reduce Regional Air Quality Impacts***

Reduction in regional impacts can be accomplished primarily by reducing the number of vehicle trips associated with planned land uses. Since State legislation precludes government agencies from requiring Transportation System Management (TSM) measures to reduce air quality impacts, a TSM program would need to be proposed by employers within the *Master Plan Area*. An adequate TSM program would need to include carpool/vanpool programs, ridematching programs, guaranteed ride home programs, coordination with regional ridesharing organizations and other programs designed to reduce vehicle trips. Specific trip reduction goals would need to be adopted and progress toward these goals monitored.

Developers can be required to provide physical improvements, such as sidewalk improvements, landscaping and the installation of bus shelters and bicycle parking that would act as incentives for pedestrian, bicycle and transit modes of travel. A mix of land uses can be encouraged so that employees would not have to use cars for meals, bank/ATM, dry cleaners and other purposes.

The implementation of an aggressive trip reduction program with appropriate incentives for non-auto travel can be expected to reduce project-related trip generation by up to 10 percent. Reductions of this magnitude in the regional air quality impacts described in Table 17 would not be sufficient to reduce regional air quality impacts to a level of insignificance. Regional air quality impacts are therefore considered to be significant and unavoidable.

### **Significant Unmitigated Impact**

The City could establish a buffer zone between industrial users that are sources of Toxic Air Contaminants and sensitive receptors. The imposition of such a buffer would reduce potentially significant air quality impacts related to land use and sensitive receptors. The establishment of a buffer between industrial uses and sensitive receptors (residences and



George Mayne Elementary School) is not currently included in the project. **(Significant Unmitigated Impact)**

**Significant Unavoidable Impact**

There is no mitigation available that will completely avoid causing significant regional air quality impacts if the project is approved as proposed. **(Significant Unavoidable Impact)**

## K. ENERGY

### 1. Existing Setting

This section was prepared pursuant to CEQA Guidelines Section 15126(c), which requires that EIRs include a discussion of the appropriate mitigation for reducing energy impacts.

Consumption of energy in the *Master Plan Area* is primarily from the use of energy by residents and businesses for transportation and utilities. The regional WPCP also uses energy for treating sewage, including energy that is recovered from some of the ongoing processes. Electricity and natural gas are provided to the *Master Plan Area* by Pacific Gas and Electric Company.

### 2. Impacts to Energy Resources

#### Thresholds of Significance

For the purposes of this project, an energy impact is considered significant if the project will:

- encourage activities which result in the use of large amounts of fuel, water, or energy; or
- use fuel, water, or energy in a wasteful manner.

Development of the *Master Plan Area* in conformance with the proposed land use designations would result in the consumption of energy in three forms: 1) the fuel energy consumed by construction vehicles; 2) bound energy in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as milled lumber and glass; and 3) operational use of energy by future residents and businesses for transportation, utilities, and industrial processes.

This EIR does not address specific development(s), or specific development techniques. Specific construction measures, including staging of construction, will be addressed prior to approval of specific projects by the City.

The City's Design Guidelines and policies encourage use of passive solar techniques, including landscaping and building orientation to minimize utility use. The City of San Jose also offers extensive information to builders on the use of recycled-content building materials, to minimize the community's reliance on products made from virgin materials, which typically require more energy to manufacture and process. All of this information would be available during project design and approval. All future construction will be subject to the provisions of Title 24 of the California Administrative Code, which sets energy efficient design standards for residential and non-residential buildings.

The anticipated alignment of the reclaimed water line being build by the City of San Jose crosses the *Master Plan Area*. Use of reclaimed water from the nearby WPCP, instead of potable water, will minimize the amount of energy required to transport water from outside Santa Clara County.

New development within the *Master Plan Area* with the proposed land uses would have an indirect influence on the energy consumed in automobile travel. The housing resources and commercial and industrial uses provided for within the *Master Plan Area* may shorten commute trips for employees who might otherwise commute to and from housing at more distant locations.

- **Development of the proposed land uses in the *Alviso Master Plan* would contribute incrementally to the use of energy for development and ongoing maintenance and operations. (Potentially Significant Impact)**

### 3. Mitigation for Energy Resources Impacts

#### **General Plan Policies**

The following General Plan policies would provide mitigation for energy impacts:

- *Residential Land Use Policy #21* - Roads, buildings and landscaping for new residential projects should be designed and oriented to maximize energy conservation benefits for space heating and cooling to the extent feasible.
- *Commercial Land Use Policy #14* - Roads, buildings and landscaping for new commercial development should be designed and oriented to maximize energy conservation benefits for space heating and cooling to the extent feasible.
- *Industrial Land Use Policy #13* - Roads, buildings and landscaping for new industrial projects should be designed and oriented to maximize energy conservation benefits for space heating and cooling to the extent feasible.
- *Energy Policy #4* - The energy-efficiency of proposed new development should be considered when land use and development review decisions are made. The City's design techniques include provisions for solar access, for siting structures to maximize natural heating and cooling, and for landscaping to aid passive cooling protection from prevailing winds and maximum year-round solar access.

#### **Other Programmed Mitigation Measures**

- ❖ The energy consumption of new buildings in California is regulated by the State Building Energy Efficiency Standards contained in Title 24 of the California Administrative Code. The efficiency standards apply to residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating and lighting. All structures would be designed in accordance with Title 24 energy standards.

**Conclusion:** Conformance with General Plan policies and implementation of the mitigation measures identified above would reduce overall energy consumption. The proposed *Alviso Master Plan* would not result in a significant impact on energy resources. **(Less Than Significant Impact with Mitigation)**

## **L. UTILITIES AND SERVICE SYSTEMS**

Utilities and services described in this section primarily consist of public infrastructure including streets, sanitary sewers, storm drainage facilities, electricity and natural gas lines, and water service. In addition, solid waste service is also addressed in this section. Services provided from other public facilities, such as police and fire protection, parks, libraries, and schools, are discussed separately in Section IV, Availability of Public Services.

### **1. Existing Setting**

#### **Street Improvements**

Many of the public streets in Alviso were built to rural standards and lack some or all of the physical improvements typical of public streets in San Jose. With the exception of Mills Street and Moffat Street, all of the streets are paved. The residential neighborhood east of the Taylor Street/Liberty Street axis, is fully improved, including pavement, curb, gutters and sidewalks. Some of this area (especially Grand Boulevard) has sidewalks on only one side of the street adjacent to undeveloped property. As is typical with other undeveloped land in San Jose, street frontage improvements would be required as a condition of development on vacant properties.

The older section of the town of Alviso generally lacks sidewalks, and frequently has curb and gutter on only one side of the street.

Most of Zanker Road and Los Esteros Road, except for a portion of the WPCP frontage, lack street lights and sidewalks, and have curb and gutter on only one side of the road. North First Street also has curb, gutter, and sidewalks on only one side; for a short stretch, it has no sidewalks at all. The newer industrial streets east of North First Street typically have full improvements.

A Community Development Block Grant recently funded the improvement of a segment of Taylor Street between Gold and El Dorado Streets. The improvement included the installation of curb, gutter and sidewalk in 1996.

Both sides of Gold Street from Great America Parkway to the bridge over the Guadalupe River (a distance of approximately 1,500 feet) will be improved as part of an approved light industrial and commercial development. Improvements will include roadway widening to four lanes, a landscaped median, and bike lanes, curb, gutter, and sidewalks on both sides of the street. The schedule for the completion of these street improvements is dependent on the timetable for construction of the industrial and commercial development.

#### **Sanitary Sewage**

Sewage is collected through a system of underground lines generally located in the public street rights-of-way. The sanitary sewer collection system in Alviso is approximately 30 years old. Because of its age and the high groundwater levels in the area, infiltration by groundwater and inflow from cross connections with the storm water collection system can

surcharge the system, causing localized backups of sewage. (See discussion in Section II.B, Drainage and Flooding.)

Three pump stations in Alviso collect and transport sewage to the San Jose/Santa Clara Water Pollution Control Plant (WPCP). One pump station is located at Spreckles Avenue and State Street, and services most of the residential area in Alviso. The second pump station is located south of the Gold Street Bridge; this is a private pump serving the Summerset Mobile Home Park. The third station is located near Nortech Drive and serves the industrial area between North First Street and Zanker Road.

Wastewater treatment service for the area is provided by the City of San Jose. The WPCP is located within the *Master Plan Area* on Los Esteros Boulevard near Zanker Road. The WPCP provides primary, secondary, and tertiary treatment of wastewater. The City's level of service goal for sewage treatment is to remain within the capacity of the WPCP. The existing capacity of the WPCP is 167 million gallons per day (mgd). The WPCP is now processing an estimated 134 mgd of effluent (dry weather peak). There is no anticipated increase in capacity planned for the next 10 to 15 years.

The WPCP is currently operating under a 120 million gallon per day (dry weather) flow trigger. This requirement is based upon the State Water Resources Board and the Regional Water Quality Control Board (RWQCB) concerns over the effects of additional freshwater discharges from the WPCP on saltwater marsh habitat, and pollutant loading to the Bay from the WPCP. In response to these issues, the City of San Jose has prepared the South Bay Action Plan, to prevent degradation of the salt water marshland habitat and study the discharge of metals from the WPCP in excess of RWQCB standards. In addition, a Clean Bay Strategy has been developed by the City of San Jose and the agencies tributary to the WPCP, to address water conservation and the pollutant loading to the Bay. The Clean Bay Strategy has identified numerous programs and projects in the areas of increased education and awareness, pollutant source detection, and greater regulatory requirements to reduce pollutant levels. The imposition of additional regulatory requirements as a result of the flow trigger has not yet occurred due to the City's good faith efforts in implementation of the Clean Bay Strategy. However, the RWQCB may require additional control measures to be implemented at any time it deems necessary. At a hearing in December 1996, the RWQCB identified the need for the WPCP to identify a program for further reducing flow within six months.

#### *Sewer System Inundation*

Sanitary sewer systems can be adversely affected by flooding. Sewer collection systems are subject to inflow and infiltration during wet weather which increase the volume of waste water to be treated. Infiltration is generally pipe system leakage due to high groundwater levels. High groundwater levels cause groundwater to enter the sewers through cracked pipes or poor pipe joints. Inflow is generally due to cross connections to the sewer. These could include street or area drains, as well as roof drains at structures. In periods of street flooding, inflow can also occur at sanitary manholes. During flood periods, significant inflow can occur due to flooded plumbing fixtures and connections. This is usually sufficient to surcharge the system beyond capacity. Untreated sewage would be released into the flooded areas from system manholes and building connections.

In the event of tidal flooding in the Alviso area, the sewer system may collect a significant inflow of salt water to the treatment plant, which could adversely affect the treatment plant systems. The activated sludge process used in secondary treatment plants like the San Jose WPCP can be damaged by high concentrations of salt water in the inflow and it may be necessary to shut off sewerage service in Alviso during a tidal flooding event.

### **Storm Drainage**

As the topographic map (Figure 4) for the area illustrates, virtually none of the area north of SR 237 is higher than five feet NGVD. Because of historic subsidence, some of the older developed neighborhood is actually below sea level. This flat, low-lying topography inhibits drainage of the area. Pumps are required to drain storm water away from the streets and developed areas.

There are existing storm sewers in the developed areas, particularly the newer industrial section. Most of the town is served by a series of storm lines with capacity for a three-year storm. Some of the older sections do not have underground lines, however, and are subject to localized drainage problems. Recent improvements to the system have included installation of a 48-inch storm main in North First Street from Grand Boulevard to School Street, installation of an 18-inch storm line in Taylor Street from Gold Street to El Dorado Street, and installation of a 30-inch storm line in Liberty Street between Taylor Street and Moffat Street. (See Section II.B, Drainage and Flooding, for a more detailed discussion of drainage issues.)

### **Solid Waste**

Collection of residential garbage and curbside recycling is provided in the Alviso area by the Green Team of San Jose. Green waste recycling collection is provided by Browning-Ferris Industries, Inc. Commercial waste collection and commercial recycling services are provided by a number of independent services providers, under non-exclusive franchise agreements with the City of San Jose.

Under City ordinance, all residences must pay for garbage collection. Residential garbage is landfilled at the Newby Island Sanitary Landfill Facility, at the northern edge of San Jose's Sphere of Influence, under a contract with the City of San Jose. Residential recyclables are processed at the Green Team's facility on Commercial Street, near the interchange of I-880 and US 101. Commercial solid waste may be landfilled at any sanitary landfill in San Jose; there are presently four permitted landfills, including Newby Island and Zanker Road within the Alviso *Master Plan Area*, and the Kirby Canyon and Guadalupe Mines Landfills, which are near the southerly borders of San Jose. Commercial recyclables may be processed at a number of material recovery facilities in San Jose, including the Recyclery at Newby Island, the Zanker Road Material Recovery Facility, and the Owens Corning recycling facility. The Owens Corning facility currently operates one day per week, although this may be expanded in the future. Residential green waste from Alviso is recycled at Newby Island.

Santa Clara County currently has over 30 years of permitted sanitary landfill capacity available.

## Water

Water is supplied to the Alviso area by the City of San Jose Municipal Water Utility. In addition to supply lines in all public streets, existing facilities include a 250,000 gallon storage reservoir (tank) located at the intersection of Liberty, State and Catherine Streets, an 18-inch supply main in North First Street, and a recently installed 12-inch secondary supply line in Gold Street. The secondary line, which crosses the Gold Street Bridge, provides a "looped" connection, improving the reliability of water service to the Study Area. Existing water pressure in this area is approximately 90 to 95 pounds per square inch (PSI).

New improvements to the water system include a new three million gallon reservoir and pump station at the easterly terminus of Nortech Parkway. The reservoir is due to be completed in November 1997 and the pump station is anticipated to be completed in the spring of 1998. These two upgrades will further improve the reliability of water service, and will be a significant improvement to the fire flow for the area.<sup>42</sup>

## Telephone, Gas and Electric

Local telephone service is provided to the area by Pacific Bell. Gas and Electric service is provided by Pacific Gas and Electric Company.

## 2. Service and Utility Impacts

### Thresholds of Significance

For the purposes of this project, a utilities and service system impact is considered significant if the project will:

- directly affect a major utility line or facility; or
- result in a substantial increase in the demand for public services.
- exceed the capacity of public service facilities to such an extent as to create a safety or public health hazard; or
- increase the potential for flood-related property loss or hazard to human life.

Buildout of the *Alviso Master Plan* will increase the demand for public services and utilities. In accordance with City policies, new development will be required to construct extension or improvements to existing infrastructure to accommodate its own requirements. This would include: street improvements such as pavement, curb, gutter and sidewalks along the subject property frontage where such improvements do not exist or are deteriorated or substandard; extension of sanitary sewer, storm sewer, and water lines to the proposed development; extension of other utility lines as required. An individual development is not usually required to upgrade major utility lines, such as sanitary or storm sewers, "downstream" of the project site, even when such lines are already overloaded or inadequate. A particular development may contribute incrementally to the surcharging or backup of a line, but it is rarely the cause of such conditions.

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<sup>26</sup>Conversation with Wayne Kawasaki, San Jose Municipal Water Utility, January 30, 1995.



In those locations where existing utility lines are undersized and where funding has not been identified to upgrade the lines, additional development will contribute to overloading. The size of the impact will correspond to the size of the individual development. Redevelopment of a significant amount of property in the area designated for *Mixed Use*, west of the Liberty/Taylor Street axis, could include upgrading of local utility lines, but still contribute significantly to the sewer lines that connect to the WPCP. Development, particularly paving, of industrial properties north of the State Street, including the proposed USA expansion, would contribute significant runoff to storm lines that already experience backups and localized flooding, located in the residential neighborhood south of State Street; the industrial area will also contribute flow to sanitary sewer lines, located in the residential area, which may already be surcharging during high groundwater periods.

- **Buildout of the *Alviso Master Plan* as proposed will contribute to surcharging and localized stormwater backups in areas with undersized utility lines. (Significant Impact)**

### 3. Mitigation for Services and Utilities Impacts

#### **General Plan Policies**

The following General Plan policies would provide mitigation for future potential impacts to utilities and service systems.

- *Neighborhood Identity Policy #2* - City services and facilities should be equitably distributed throughout the community to the extent feasible.
- *Neighborhood Identity Policy #4* - Neighborhoods should include places for interaction among residents such as parks, community centers, schools, commercial areas, churches, and other gathering points.
- *Level of Service Policy #1* - The City's urban service delivery priorities should be ordered as follows:
  - \_ Provide services and facilities designed to serve existing needs.
  - \_ Prevent the deterioration of existing levels of service.
  - \_ Upgrade City service levels, when feasible.
- *Level of Service Policy #2* - Capital and facility needs generated by new development should be financed by new development. The existing community should not be burdened by increased taxes or by lowered service levels to meet needs created by new growth. The City Council may provide a system whereby funds for capital and facility needs may be advanced and later repaid by affected property owners.

- *Level of Service (Sanitary Sewer System) Policy #6* -The minimum performance standard for sanitary sewer lines should be level of service "D", defined as restricted sewage flow during peak flow conditions. Development which will have the potential to reduce the downstream level of service to worse than "D", or development which would be served by downstream lines already operating at a level of service worse than "D", should be required to provide mitigation measures to improve the level of service to "D" or better. In recognition of the substantial non-sewer benefits of infill development, small infill projects may be exempted from sewer mitigation requirements.
- *Level of Service (Sewage Treatment) Policy #7* - The City should monitor and regulate growth so that the cumulative sewage treatment demand of all development can be accommodated by San Jose's share of the treatment capacity of the San Jose/Santa Clara Water Pollution Control Plant.
- *Level of Service (Sewage Treatment) Policy #8* - The operation of the Water Pollution Control Plant should comply with the water quality standards for the South San Francisco Bay established by the Regional Water Quality Control Board and implemented through NPDES (National Pollution Discharge Elimination System) permits.
- *Transportation (Thoroughfares) Policy #3* -Public street right-of-way dedication and improvements should be required as development occurs. Ultimate thoroughfare right-of-way should be no less than the dimensions as shown on the Land Use/Transportation Diagram except when a lesser right-of-way will avoid significant social, neighborhood or environmental impacts and perform the same traffic movement function.
- *Transportation (Thoroughfares) Policy #4* - Additional public street right-of-way beyond that designated on the Land Use/Transportation Diagram may be required to facilitate left-turn lanes, bus pullouts, and right-turn lanes in order to provide additional capacity at some intersections.
- *Transportation (Thoroughfares) Policy #8* - Vehicular and pedestrian safety should be an important factor in the design of streets and roadways.
- *Level of Service (Sewage Treatment) Policy #9* - The City should continue to encourage water conservation programs which result in reduced demand for sewage treatment capacity.
- *Water Resources Policy #11* - The City should promote use of reclaimed water when feasible, particularly for industrial users, for irrigation and groundwater recharge.

**Conclusion:** Implementation of these General Plan policies will ensure that most impacts on utility and service systems will be reduced to a less than significant level. As development occurs which will contribute to downstream utility lines that are undersized, increased surcharging and/or stormwater backups will occur, impacting existing residential neighborhoods. **(Significant Unavoidable Impact)**

### III. AVAILABILITY OF PUBLIC SYSTEMS

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Many public services are provided to the community as a whole, usually from a central location or from a defined set of nodes. The resource base for delivery of these services, including the physical service delivery mechanisms, are financed on a community-wide basis, usually from a unified or integrated financial system. The service delivery agency can be a city, county, service, or other special district. Usually new development will create an incremental increase in the demand for these services; the amount of the demand will vary widely, depending on both the nature of the development (residential vs. industrial, for instance) and the type of service, as well as on the specific characteristics of the development (such as senior housing vs. family housing). The impact of a particular project on public services will, therefore, generally be a fiscal impact. By increasing the demand for a service, a project could potentially cause an eventual increase in the cost of providing the service. CEQA does not require an analysis of fiscal impacts.

While not required by CEQA, discussion of fiscal impacts is permitted where the issue may be of concern to the community or decision makers, and where the analysis can contribute to an understanding of the project as a whole. In addition, CEQA does encourage fiscal analysis when financial impacts might result in an impact on the physical environment (such as the construction of a new fire station). The City of San Jose, therefore, includes a discussion of potential impacts on public services in EIRs prepared for land use and development projects.

Some of the public services provided to the Alviso area are part of a city-wide system. While individual development may increase the demand for these services, they are provided from a single resource base that is not generally tied to a single area or particular development proposal. Police and fire protection, in particular, are provided by extensions of single systems that are responsible for the entire City.

Libraries, parks and recreation are also parts of larger systems that must provide services for the entire City. The adequacy of these services, however, is linked to specific facilities located in individual neighborhoods. The ability of the City to operate and maintain these facilities, and to offer the ongoing support (such as recreation leaders and new books) is also a reflection of the resources available in the city-wide system. Similarly, the schools which neighborhood children attend include both the physical facilities and the availability of personnel and support services to maintain adequate support.

The availability and adequacy of fire, police, parks and recreation, library and school services do not generally constitute constraints to development in the City of San Jose. Existing ordinances provide for the payment of fees and taxes which finance the construction of new capital facilities, and pay for the operation of the sewage treatment plant (WPCP). They are only addressed in this section, in terms of the General Plan benchmarks. The discussion below, therefore, focuses primarily on the role which services will play in the evaluation of new development proposals in the *Master Plan Area*.

Public services of concern in the *Alviso Master Plan Area* include: police and fire protection, schools, parks and recreation, and library services.

## **1. Police Protection**

Alviso is in Beat R6 for the City of San Jose Police Department. The geographic extent of Beat R6 is generally the same boundary as the *Master Plan Area*.

Staffing for this beat consists of one officer in a patrol car during daylight hours, both during the week and on weekends. For the swing shift, two officers are assigned to the beat. They may patrol together in one patrol car, or separately. The midnight shift also has two officers assigned to this beat. They also may be in one car or separate cars.

The City of San Jose standards for responding to police calls for service are six minutes for Priority 1 calls (which include crimes in progress and life-threatening situations), and 11 minutes for Priority 2 calls. The General Plan benchmark is for 60% of Priority 1 calls to be responded to in six minutes or less, and for 60% of Priority 2 call to have a response time of eleven minutes or less.

During the period between January 1995 and June 1997, there were 11 Priority 1 calls for service in Beat R6, and 222 Priority 2 calls. The average response time for Priority 1 calls in Beat R6 during that time was eight minutes, 29 seconds (including dispatch time). The average response time for Priority 2 calls was 15 minutes, 37 seconds (including dispatch time).

All new development proposed under the new land use designations would be reviewed by the City Police Department for incorporation of design measures to reduce potential criminal activities. However, new industrial, commercial, and residential development will cause increased demand for police services.

## **2. Fire Protection**

The Alviso area contains a fire station, No. 25, which is located at 1590 Gold Street. Station No. 25 has a crew of four firefighters on duty 24 hours a day. It is equipped with a fire engine capable of pumping 1,500 gallons per minute.

The next nearest fire station is No. 29, located at Zanker Road and Caviglia Drive. Station No. 29 provides back-up response to Station No. 25 for calls in the Alviso area. Station No. 29 is a Battalion Headquarters and is equipped with a fire engine, a fire truck, a foam unit, and a Hazardous Incident Team (HIT). A fire engine carries water, a fire truck carries specialized equipment, and an HIT team responds to incidents involving hazardous or toxic materials.

The response time for fire protection in Alviso is under four minutes. The City of San Jose General Plan benchmark is a four minute average response time to all fire protection calls.

Development of the property under the proposed General Plan designations would generate increased demands for fire protection services. Future industrial park developments would be built to Fire Code standards, including sprinklers, alarms, and separations between incompatible uses. Industrial development may also include the storage and use of hazardous materials, which would be reviewed and approved by the Fire Department.

Residential development would be built to current Fire Codes, including installation of smoke alarms. New residential uses will increase calls for service, including structure fires, nuisance fires, and rescue calls.

While adherence to codes will minimize the potential damage and risk from fire, the existing laws represent minimum standards and do not safeguard against all hazards, particularly for industrial and high density residential development. Despite design measures to reduce potential impacts on fire services, new development within the *Master Plan Area* will increase the need for fire protection services. Development under these proposed land use designations may not represent an increase in fire services over what would be necessary to service development under the existing land use designations, however.

### **3. Parks and Recreation**

#### **Local Facilities**

Existing facilities in Alviso include the 7.5 acre Alviso Park adjacent to George Mayne Elementary School on North First Street and an 800-foot community center on Liberty Street. The park primarily serves the 2,200 population of Alviso. The community center offers activities for youth and supports community activities associated with the nearby Alviso Family Health Clinic. The park includes a swimming pool, playground and baseball field. There are no permanent restroom facilities at the park, although temporary toilets have been provided by the City for special events.

Additional recreational facilities and space are provided at George Mayne Elementary School, which is adjacent to the park. The school includes paved playing surfaces as well as ball fields. An afterschool "drop-in" program is offered year round, Monday through Friday, at George Mayne School for children 6 to 11 years old. Activities include arts and crafts, games and sports.

City of San Jose General Plan benchmarks for parks and recreational facilities are 3.5 acres of parkland per 1,000 population, 7.5 acres of regional park lands per 1,000 population, and 500 square feet of community center floor area per 1,000 population.

Development of additional residential uses would generate an increase in demand for park and community center facilities compared to the existing condition. These demands would be no greater than (approximately the same as) development under existing General Plan designations.

#### **Regional Facilities**

Regional facilities in the area include the Don Edwards San Francisco Bay National Wildlife Refuge, which has 3,652 acres within the San Jose Sphere of Influence (19,058 acres total), and the Alviso Marina County Park (approximately 28 acres total).

The Wildlife Refuge includes trails and an environmental education center. The trails are open part of the year, depending on the potential to interfere with the breeding cycles of birds within the Refuge. The Refuge protects critical habitat at the southern end of the Bay,

and provides educational opportunities for visitors. The U.S. Congress has approved expansion of the Refuge to an ultimate size of 43,000 acres .

A Master Plan for Alviso Marina County Park has been recently adopted by the Santa Clara County Parks and Recreation Commission. The Park Master Plan balances habitat protection with improved boat access and passive recreational activities, such as picnicing, walking, and bird watching. The old Marina basin will continue to revert to wetland habitat. Existing Marina Park facilities include picnic tables, parking and restrooms. Minor site upgrades and repairs to park facilities are anticipated to be completed by the end of 1997.

### ***Regional Trails***

Several trail routes cross the *Alviso Master Plan Area*. The planned routes of the Juan Bautista de Anza National Historic Trail and the San Francisco Bay Trail as identified in the Santa Clara County Trails Master Plan coincide in the Alviso area. In addition, two sub-regional trail routes, the Guadalupe Trail and Coyote Creek/Llagas Creek Trail, extend along the banks of the Guadalupe River and Coyote Creek within the Alviso area.

The Juan Bautista de Anza National Historic Trail (NHT) commemorates the route taken by Anza in 1775-1776. The NHT trail route, along this segment, does not follow the actual route of the Anza expedition.

The San Francisco Bay Trail is a 400-mile long trail proposed around the perimeter of San Francisco and San Pablo Bays. Within San Jose's Sphere of Influence, a five-mile segment will connect the Sunnyvale Baylands Park to Alameda County. This segment is planned to be ten feet wide, with two-foot shoulders on both sides. The Association of Bay Area Governments (ABAG) has approved a conceptual alignment for the Bay Trail in the South Bay (see Figure 24). The City of San Jose will be preparing a Master Plan for the Bay Trail through San Jose. The Bay Trail includes segments along surface streets in Alviso.

A planned sub-regional trail route, the Guadalupe Trail, extends in a north-south direction from the Bay Trail to the Guadalupe Reservoir, south of San Jose. This hiking and off-road bicycle trail route would roughly follow the Guadalupe River. In the Alviso area, the trail connection between the San Francisco Bay Trail and the Guadalupe River Trail run along the river levees.

## **4. Libraries**

The Alviso Library is currently located at 1060 Taylor Street. It is approximately 884 square feet in area, and has a collection of 14,000 books. The library acquires approximately one new book per 15 people per year. The Alviso Library is open 40 hours a week, and has four employees. It serves a population in North San Jose of approximately 7,200 people, which includes residents outside the Alviso Study Area. Existing library service is, therefore, provided at a ratio equivalent to 4,400 square feet of floor area per 36,000 population and 55.5 hours of service per 10,000 population.

The San Jose General Plan benchmarks for library service are 10,000 square feet of library space per 36,000 population, and 18.3 weekly service hours per 10,000 population.

A new 5,800 square foot combined community center and library facility is planned for a site on First Street within Alviso Park. Construction of this facility is scheduled to begin in early 1998. Expanded library and community programs are expected to be housed in the new library/community center.

Development of residential uses would generate an increase in demand for library services compared to the existing condition. These demands would be no greater than development under existing General Plan designations. Development of commercial and industrial uses would be unlikely to generate a significant increase in demand for library services. Although, the library space currently provided is less than the General Plan benchmarks, construction of the new library facility is anticipated to bring improved library service to Alviso residents in line with the goals of the General Plan.

## **5. Schools**

Alviso is located within the Santa Clara Unified School District. George Mayne Elementary School is located on the corner of North First and School Streets. Approximately 225 of the 466 students attending George Mayne Elementary School (kindergarten through fifth grade) reside in Alviso. Approximately 250 children from Alviso attend Peterson Middle School (grades 6 through 9) and Wilcox High School (grades 10 through 12) within the City of Santa Clara. Bus service is provided for middle and high school students.

The capacity of George Mayne Elementary School is 540 students; present enrollment is 466. The capacity of Peterson Middle School is 1,530; present enrollment is 1,199. Wilcox High School capacity is 1,760; present enrollment is 1,892<sup>43</sup>.

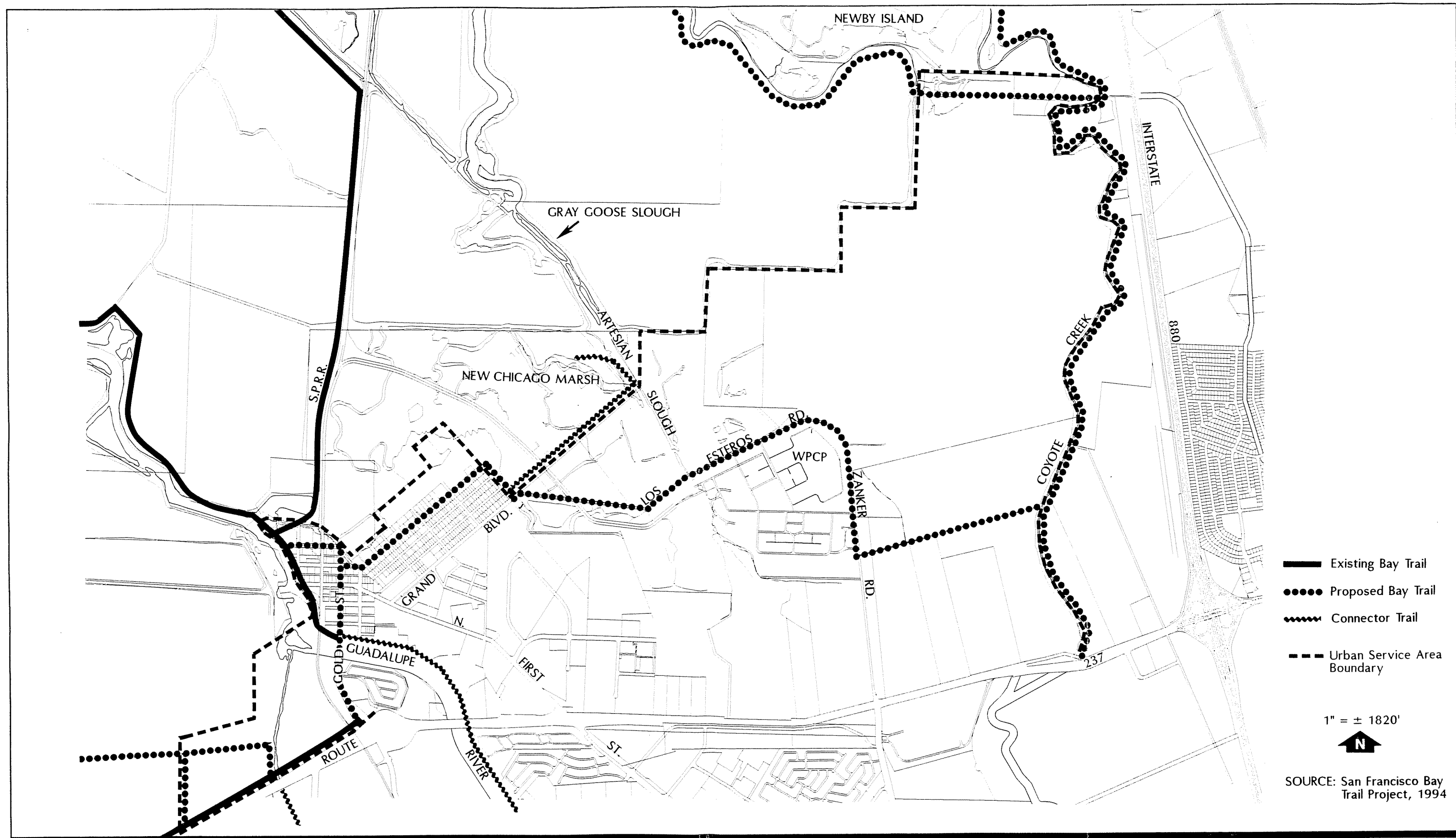
Construction of up to 774 dwelling units would generate approximately 78 school aged children<sup>44</sup>. These demands would be no greater than than development under the existing General Plan designation. Development of commercial and industrial uses would be unlikely to generate a significant increase in demand for school services.

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<sup>43</sup> *Alviso Master Plan Existing Conditions and Constraints Report* (April 1995) and Peggy Fujczak, Santa Clara Unified School District, September 30, 1997.

<sup>44</sup> This figure is based on the Santa Clara Unified School District's K-12 generation rate of 0.1 child per multi-family dwelling unit, as reflected in the *San Jose 2020 General Plan FEIR*, 7/94.





SAN FRANCISCO BAY TRAIL ALIGNMENT

FIGURE 24

## IV. ALTERNATIVES TO THE PROPOSED PROJECT

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The current state law and CEQA Guidelines require that an EIR evaluate the comparative merits of “a range of reasonable alternatives to the project...which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project,...” [CEQA Guidelines §15126(d)]. In addition to the “No Project” alternative, a Draft EIR must describe reasonable alternatives to the project size, design and/or location, focusing on those alternatives which are capable of eliminating or reducing significant adverse environmental impacts.

The most significant impacts anticipated from the proposed project are: land use, particularly land use compatibility; drainage and flooding; geologic hazards; vegetation and wildlife; hazardous materials; and air quality. Possible alternatives to the *Master Plan* as it is proposed could reasonably be an alternative that includes more residential units and less intense industrial development, which might reduce some of the commute traffic and the resultant air quality impacts; another alternative evaluated is a combination of land uses that reduces the intensity of development allowed on the closed Cargill landfill site and does not include an expansion of the Urban Service Area, in order to reduce both land use and biotics impacts.

### A. NO PROJECT ALTERNATIVE

The CEQA Guidelines [§15126(d)4] require that an EIR specifically discuss a “no project” alternative, which should address both “the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project is not approved, based on current plans and consistent with available infrastructure and community services.” Since the proposed project in this instance is a General Plan Amendment and master land use plan, the alternative to the City approving the project would be to allow the General Plan to remain unchanged. The discussion below addresses both “existing conditions”, or a no development scenario, and the alternative of not changing the General Plan.

#### 1. No Development Scenario

If no further development occurs in Alviso, none of the impacts associated with development would occur. The area would remain as it currently is. The result of the No Development Scenario would, therefore, be the conditions described under the headings of “Existing Setting” in Section II of this EIR. This alternative would not be compatible with the project objectives.

#### 2. Development Under Existing General Plan Designation

If the *Master Plan* is not approved, the General Plan designations on all of the property within the *Master Plan* boundaries will remain as they are. Individual property owners may request changes to their property, but each such request would be subject to a separate CEQA process. As discussed below, many of the impacts from development under the existing General Plan would be similar to the impacts identified for development under the *Master Plan*.

## *Land Use*

Although implementation of the existing General Plan would avoid the potential interface problems which may result from the *Mixed Use* designation, the existing General Plan designations in the town area of Alviso (*General Commercial, Industrial Park, Combined Industrial/Commercial*) could also result in the gradual replacement of existing residential uses with non-compatible development. Interface impacts could also be created as new development occurs under those designations.

The existing General Plan does not include the USA encroachment into New Chicago Marsh, which would result in less impact on the Refuge and on the habitat values of the marsh, than the proposed project, but does allow for a more limited development on land that protrudes into the marsh.

The existing General Plan has a residential designation on the land immediately north of the park and George Mayne School, instead of the *Industrial Park* designation proposed by the *Master Plan*. Residential development at that location reduces the likelihood of hazardous materials being stored and used immediately adjacent to, and north/northwest of the school. Because of the prevailing wind direction, this would constitute a significant reduction in potential risk for the school.<sup>45</sup> Development of the property immediately north of the school with residential uses would also create fewer potential conflicts along Wilson Way in terms of traffic (especially truck traffic) and access than could be anticipated from industrial development adjacent to the school.

The existing General Plan designation for the closed landfill west of Gold Street (*Private Recreation*) would allow less intense uses of the site than the proposed designation of *Industrial Park*. The development of the site for private recreation uses would have a reduced potential for adverse impacts which might result from development under the proposed *Master Plan*.

The existing General Plan allows *Light Industrial* development adjacent to the mobilehome park on Gold Street; the proposed project would allow *Industrial Park* uses. Since the *Industrial Park* designation requires a higher development standard and is more restrictive as to the types of industrial use allowed, the proposed project would have fewer compatibility problems at that location than would development under the existing General Plan.

## *Drainage, Flooding, and Water Quality*

Under all of the alternatives, new development in the tidal flooding area would be required to have first floor elevations above the 100-year tidal floodplain.

As with the proposed *Master Plan*, uses allowed under the existing General Plan would increase the impervious surfaces within the study area, thereby decreasing the amount of pervious surface available for water percolation and increasing surface runoff. The potential

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<sup>45</sup>Because the prevailing winds are from the north and north/northwest, placing residential development north and north/northwest of the school site reduces the potential exposure of the school without placing the new residential development itself in an impacted location.

drainage impacts of the *Alviso Master Plan* depend on the specific watershed or drainage system which may be affected, and the extent of proposed development.

Development in Drainage Areas A and F which would increase runoff would require new drainage and disposal systems as part of any development project. The overall runoff impact of the No Project alternative within Area A, east of Gold Street, would be approximately the same as the *Master Plan*, although the specific areas to be developed are different. Development in Area F for either alternative would require new storm drain systems.

Development in Area B, inside the town area, would contribute increased runoff to the existing storm drain system which does not meet current design standards. The No Change in the General Plan/No Project Alternative would increase runoff volume by approximately 20 percent for a 2-year storm versus an approximately 30 percent increase under the *Master Plan*. Until the proposed drainage improvements are completed, additional development is likely to increase the frequency and extent of drainage problems.

Development in Area C would be the same under the existing General Plan as under the proposed *Master Plan*, and would only require additions to the existing collection systems to serve the additional area. The existing runoff conditions in Areas D and E would not change under the existing General Plan.

In addition to the increase in storm runoff, development in the study area under the existing General Plan designations would also result in potential nonpoint source impacts. These impacts would occur both during construction and in the long-term, as described in Section III, B. Implementation of the mitigation measures identified in Section III, B. would reduce potentially significant impacts to a less than significant level.

### *Geology, Soils, and Seismicity*

Development under the existing General Plan designations would also be subject to geologic and soils conditions which can pose a hazard to structures. These conditions include Bay Mud, expansive soils, landfills and undocumented fill, and alluvial deposits including loose to medium dense sands.

Under the No Project/No Change in the General Plan Alternative, light industrial use development could occur in areas that were formerly used as disposal sites or contain undocumented fill. The total area underlain by these materials that could be developed with industrial, commercial, or mixed uses is less under the No Project/No Change in the General Plan Alternative than would be allowed by the *Master Plan*, however. The proposed *Master Plan* allows for industrial development south of the Guadalupe River in areas that are currently designated as private open space or for private recreation. In addition, the expansion of the Urban Service Area by fourteen acres into a filled area within New Chicago Marsh, would increase the area potentially subject to geologic impacts from landfill and undocumented fill materials. This area is also assumed to contain Bay Mud. Therefore, potential geologic impacts (from development on former landfill and undocumented fill sites) would be less under the existing General Plan (No Project/No Change in the General Plan Alternative) than under the proposed *Master Plan*.

### *Vegetation and Wildlife*

The effects on biological resources from this alternative will be very similar to the anticipated impacts from the proposed *Master Plan* for most of the Alviso area. Potential impacts to Burrowing Owl habitat would be similar.

The expansion of the USA proposed by the *Master Plan* could introduce approximately 14 additional acres of new light industrial uses into the New Chicago Marsh, where development is not permitted under the existing General Plan. The existing General Plan would have less impact on the habitat values of New Chicago Marsh, and on the Refuge, than the proposed project.

### *Public Health and Safety*

The potential impacts from hazardous materials on the George Mayne School under the No Project/No Change in the General Plan Alternative would be less than might be anticipated under the proposed *Master Plan*. Under both scenarios, industrial users, any of which potentially could be using toxic gases or liquids, could locate immediately adjacent to the school site on the east, and might also develop across North First Street, to the south. Under the proposed *Master Plan*, industrial users could also develop immediately north of the school, placing a potential user of hazardous materials upwind and in the prevailing wind direction from the school. Although existing laws would likely limit the type of hazardous materials that could be used near the school, there is a significantly increased potential for compatibility conflicts between the school and industrial uses under the proposed *Master Plan* compared to the existing General Plan.

### *Air Quality and Odor*

Development under the proposed *Master Plan* would result in a net increase of jobs over the existing General Plan. The air quality impacts of placing additional jobs in the North County area would therefore result in a worsening of regional air quality compared to the existing General Plan. The existing General Plan does not allow industrial development immediately north of the existing elementary school, which reduces the potential for toxic air contaminants to adversely impact the children attending the school. The No Project/No Change in the General Plan would have incrementally less potential air quality impacts than the proposed project.

### *Visual and Aesthetic Quality*

Implementation of the existing General Plan land use designations would result in visual impacts similar to those anticipated from the proposed *Master Plan* throughout most of the Alviso area. The primary differences would be on the large closed Cargill landfill west of Gold Street and north of SR 237, and in the New Chicago Marsh, north of State Street. The existing General Plan does not allow significant urban development at these two highly visible locations, and would result in less visual change.

### *Other Impacts*

Other impacts of development allowed under the General Plan, including Energy, Noise, Traffic, and Cultural Resources, would be similar to the *Master Plan* as proposed. Additional development of the *Master Plan* area with more buildings for residential, commercial, and industrial uses, would generate greater demand for police and fire protection than the existing site conditions. Development of the Alviso area under the existing General Plan area could have an impact on city services equivalent to that of the *Master Plan*.

The increased industrial uses allowed by the proposed *Master Plan* would be expected to require more water, sewage treatment and power capacity than the existing General Plan, if they include manufacturing activities; office uses would require less of those services, but might generate more solid waste.

**Conclusion:** The No Project/No Change in the General Plan Alternative could result in significantly less land use, vegetation and wildlife, geological and soils, visual, and hazardous materials impacts than the proposed *Master Plan*.

## **B. INCREASED RESIDENTIAL SCENARIO ALTERNATIVE**

An alternative land use configuration, different from both the existing General Plan and the proposed *Master Plan*, is shown in Figure 25. Under this alternative, additional areas would develop with residential uses, and some other variations are also shown. As illustrated in Table 18, an additional 24 acres of residential development is shown in this alternative, allowing for up to 170 additional dwelling units. This alternative also proposes that the land around the mobilehome park on Gold Street be designated for *Private Recreation* rather than *Industrial Park (Master Plan)* or *Light Industrial* (existing General Plan). A *Light Industrial* designation is shown for the Cargill landfill property and for some of the vacant land at the easterly end of Nortech Parkway, north of SR 237; the *Master Plan* proposes *Industrial Park* for both areas. Table 18 lists the different acreages shown for each category of land use for the proposed project, the existing General Plan, and two possible alternative land use scenarios.

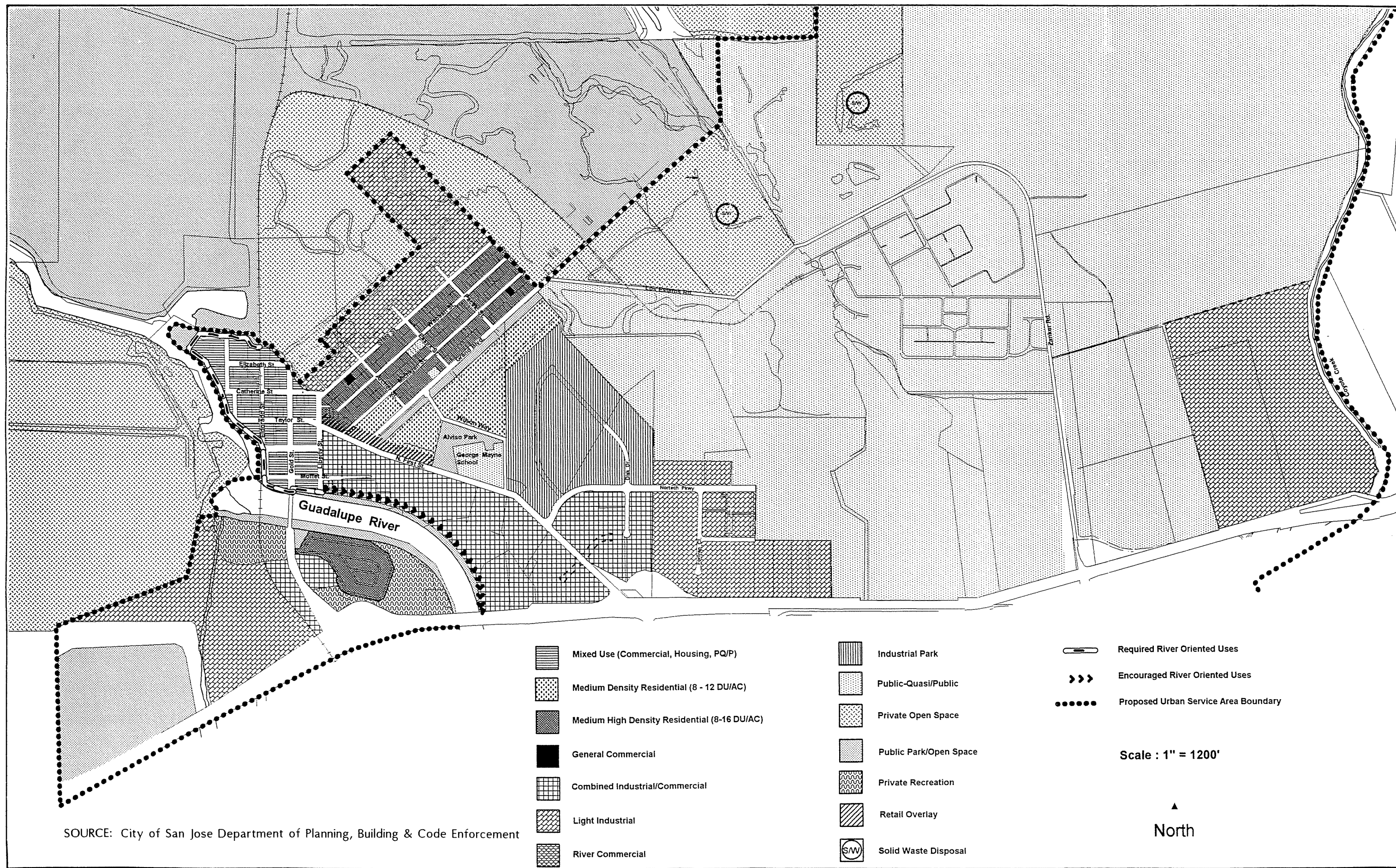
The differences in potentially significant impacts, comparing this alternative to the proposed project, is discussed in each relevant category below.

### *Land Use*

This alternative, by reducing the amount of industrial park development in direct proximity to the existing school and public park, also reduces the potential problems that might result from that proximity. In addition to fewer risks associated with hazardous materials (see discussion below), the potential impacts from noise, truck and other traffic, and the creation of an attractive nuisance for children, are reduced.

The *Light Industrial* designation for the Cargill landfill site could mean that lower intensity industrial uses, such as warehousing, wholesaling, and including outdoor storage, might be more likely to develop at this location. These lower intensity uses could result in fewer







**TABLE 18**  
**General Plan Land Use Designations by Alternative**  
**Within Urban Service Area\***  
**(expressed in acres)**

<b>General Plan Designations</b>	<b>Alviso Specific Plan (Proposed Project)</b>	<b>Alternative A: Increased Residential Alternative</b>	<b>Alternative B: Reduced Scale Alternative</b>	<b>Existing General Plan (No Project)</b>
Medium Density Residential (8 du/ac)	0	0	0	74
Medium Density Residential (8-12 du/ac)	13	37	13	0
Medium High Density Residential (8-16 du/ac)	72	72	72	22
Mixed Use	53	53	52	0
General Commercial	4	1	1	37
Combined Industrial/Commercial	107	111	101	50
Industrial Park	254	153	177	113
Light Industrial	196	253	178	348
Heavy Industrial	0	0	0	45
Public/Quasi-Public	1,755	1,755	1,755	1,397
Public Park/Open Space	90	90	90	404
Private Open Space without Overlay	33	33	33	29
Private Open Space with Solid Waste Overlay	131	131	131	131
Private Recreation	0	27	94	53
River Commercial	8	0	0	0
<b>TOTAL</b>	<b>2,716</b>	<b>2,716</b>	<b>2,697</b>	<b>2,703</b>

\*Note: The boundaries of the Urban Service Area (USA) changes under each of the alternatives compared to the existing USA boundaries.

buildings and a lower employment density, which could reduce the potential impacts from building on a landfill.

This alternative, with *Private Recreation* uses on the south side of the river west of Gold Street, instead of the more intense *General Commercial* and *River Commercial* designations of the *Master Plan*, would also result in fewer buildings and less human activity adjacent to the river, with less potential for contaminated runoff, litter, and other nuisance impacts to the river and downstream habitats. *Private Recreation* uses adjacent to the mobilehome park on Gold Street, instead of *Industrial Park* development, could potentially reduce the noise, hazardous materials, and other interface impacts on the residents of the mobilehome park, depending on the type of private recreation uses that might develop.<sup>46</sup>

### ***Drainage, Flooding, and Water Quality***

Under this alternative, as for the proposed *Master Plan*, new development in the tidal flooding area would be required to have first floor elevations above the 100-year tidal floodplain.

As with the proposed *Master Plan*, uses allowed under the Residential Alternative would increase the impervious surfaces within the study area, thereby decreasing the amount of pervious surface available for water percolation and increasing surface runoff. The potential drainage impacts of this alternative depend on the specific watershed or drainage system which may be affected, and the extent of proposed development.

Development in Drainage Areas A and F which would increase runoff would require new drainage and disposal systems as part of any development project. The overall runoff impact of the Increased Residential Alternative within Area A, east of Gold Street, would be approximately the same as the *Master Plan*. Development in Area F for either scenario would require new storm drain systems.

Development in Area B, inside the town area, would contribute to the existing storm drain system which does not meet current design standards. The runoff impact of the Residential Alternative would be approximately the same as from implementation of the *Master Plan*, including the increased demand for capacity within the existing town area. Until the proposed drainage improvements are completed, additional development are likely increase the frequency and extent of drainage problems.

Development in Area C, including the new residential allowed south of Grand Avenue, would contribute to an existing system and would only require additions to the existing collection systems to serve the additional area. The existing runoff conditions in Areas D, E, and F, would not be affected by any of the changes in land use allowed by this alternative.

In addition to the increase in storm runoff, development in the study area would also result in potential nonpoint source impacts. Development within New Chicago Marsh, in particular,

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<sup>46</sup>The City Council recently approved a PD rezoning for much of the vacant land adjacent to the mobilehome park. The zoning allows light industrial and commercial uses. No construction has yet occurred on the property.

could impact the adjacent wetlands. These impacts would occur both during construction and in the long-term, as described in Section II.B.

### ***Geology, Soils, and Seismicity***

Under this and all other alternatives, new development in the *Alviso Master Plan* area would be subject to geologic and soils conditions which can pose a hazard to structures. These conditions include Bay Mud, expansive soils, landfills and undocumented fill, and alluvial deposits including loose to medium dense sands.

Under the Increased Residential alternative, light industrial uses could be developed in areas that were formerly used as disposal sites or contain undocumented fill. Light industrial development that has fewer structures and lower employment densities could result in fewer potential impacts associated with development on landfill sites. The total area underlain by these materials that could be developed with industrial uses is more than under the No Project Alternative, but less than the *Master Plan*. The Increased Residential Alternative allows for less industrial and commercial development south of the Guadalupe River than the *Master Plan*. The expansion of the Urban Service Area by fourteen acres into a filled area within New Chicago Marsh, would increase the area potentially subject to geologic impacts from landfill and undocumented fill materials under both the Residential Alternative and the proposed *Master Plan*. Therefore, potential geologic impacts (from development on former landfill and undocumented fill sites) would be less under the Residential Alternative than the proposed *Master Plan*, but greater than the No Project Alternative.

### ***Vegetation and Wildlife***

Most of the effects on biological resources under the Increased Residential Alternative would be similar to those of the proposed project. Fewer potential wetlands would be likely to be impacted in the area south of the Guadalupe River, however. Under the proposed *Master Plan*, small areas of seasonal wetland near the Summerset Mobile Home Park could be developed with *Mixed Uses*. Under this alternative, the area would be designated for *Private Recreation*, which would be generally be a lower intensity of use. The designation of *Private Recreation* on the south side of the river, west of Gold Street, instead of commercial uses, would also reduce the intensity of development in close proximity to the river and should result in fewer potential impacts from contaminated runoff, litter, lighting, and other spillover impacts to the habitat adjacent to the river and downstream. Potential impacts to Burrowing Owl habitat would be similar under this alternative.

### ***Public Health and Safety***

The potential impacts from hazardous materials on the George Mayne School under the Increased Residential Alternative would be less than with the proposed *Master Plan*. Industrial users, any of which potentially could be using toxic gases or liquids, could border the school site on the east and south, but a smaller area would be designated for industrial uses within one-quarter mile of the school; in particular, there would not be planned industrial users upwind of the school in the prevailing wind direction.

### *Air Quality and Odors*

As shown in Table 19, the Increased Residential Alternative would result in incrementally greater air quality impacts, above both the existing General Plan and the proposed project. This occurs because total trips generated by residential development is greater than for new jobs.

TABLE 19 Comparison of Regional Emissions in Pounds Per Day			
Alternative	Reactive Organic Gases	Nitrogen Oxides	PM-10
Existing General Plan	55.0	92.3	146.0
Proposed Master Plan	61.0	104.2	165.6
Increased Residential Alternative	66.6	111.6	176.3
Reduced Scale Alternative	55.3	92.9	146.9
BAAQMD Significance Threshold	80.0	80.0	80.0

### *Visual Resources*

Visual impacts from this alternative would be similar to those from implementation of the proposed *Master Plan*, including the significant visual changes of introducing urban development on the Cargill landfill site and intruding into New Chicago Marsh.

### *Other Impacts*

This alternative would have slightly less peak hour traffic impacts than the proposed *Master Plan* as a result of including residential uses near the existing and planned concentration of jobs in the northern County. Impacts associated with noise, energy, cultural resources, public utilities and public services would be similar to those from the proposed *Master Plan*; the increased residential development would produce an incremental increase in demand for library, park, and school facilities. The development of 172 additional multi-family dwelling units is not anticipated to produce sufficient demand to require construction of new facilities, however.

**Conclusion:** This alternative reduces potential hazardous materials impacts to the existing school site, and has slightly less potential impact to biological resources in the area. There is a potential for reduced land use, geologic and soils impacts from implementation of this alternative. The Increased Residential scenario could, however, result in an incremental increase in air quality impacts. Primarily because of its potential for avoiding significant

hazardous materials impacts to the existing school, this alternative is environmentally superior to the proposed project.

### C. REDUCED SCALE ALTERNATIVE

A second alternative land use scenario, different from the proposed *Master Plan*, the existing General Plan and from the previously discussed "Increased Residential Alternative", is shown in Figure 26. In this alternative, there is no expansion of the USA; the existing intrusion into New Chicago Marsh is reduced and the USA boundary is retracted to a line roughly parallel to State Street.<sup>47</sup> The number of dwelling units allowed by this alternative is the same as that in the proposed *Master Plan*. Table 18 illustrates the number of acres under each land use category included in this alternative, as well as the proposed *Master Plan* and the General Plan.

Like the existing General Plan, this alternative designates the closed Cargill landfill site for *Private Recreation* uses; the *Master Plan* shows the site for *Industrial Park* uses. This alternative also shows *Private Recreation* uses extending south of the river (instead of commercial uses as in the *Master Plan*), and adjacent to the mobilehome park (instead of *Industrial Park*, as in the *Master Plan*). Also like the existing General Plan, this alternative proposes *Light Industrial* development at the easterly end of Nortech Parkway, north of SR 237, instead of *Industrial Park*, like the *Master Plan*.

#### *Land Use*

This alternative avoids the potential land use impacts which can result from development on the Cargill landfill property, and the potentially significant impacts of expanding the USA boundary into New Chicago Marsh. It would have less severe impacts on the marsh than either the proposed project or the existing General Plan. This alternative also reduces the potential wetland impacts from development of *River Commercial* uses adjacent to the Guadalupe River.

#### *Drainage, Flooding, and Water Quality*

Under this and all other the alternatives, new development in the tidal flooding area would be required to have first floor elevations above the 100-year tidal floodplain.

As with the proposed *Master Plan*, uses allowed under the existing General Plan would increase the impervious surfaces within the study area, thereby decreasing the amount of pervious surface available for water percolation and increasing surface runoff. The potential drainage impacts of the *Alviso Master Plan* and alternatives depend on the specific watershed or drainage system which may be affected, and the extent of proposed development.

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<sup>47</sup>The existing short extension of the USA into New Chicago Marsh is the old wastewater treatment plant site, currently owned by the City of San Jose.



The Reduced Scale Alternative would change portions of Drainage Area A east of Gold Street to private recreation land uses. Limited impervious area was assumed for this use and runoff would not increase. Under the *Master Plan*, development within Area A would require new drainage and disposal systems.

Development in Area B, the existing town, would contribute to the existing storm drain system which does not meet current design standards. The Reduced Scale Alternative would increase runoff volume by approximately 16 percent for a 2-year storm versus an approximately 30 percent increase under the *Master Plan*. Until the proposed drainage improvements are completed, the development allowed under this alternative would result in less impact to existing storm drains in the existing town than would the proposed *Master Plan*.

Development in Area C would contribute to an existing system and would only require additions to the existing collection systems to serve the additional area. The existing runoff conditions in Areas D and E would not be affected.

Development in Area F would require new storm drain systems, similar to the *Master Plan*. In addition to the increase in storm runoff, development in the study area would also result in potential nonpoint source impacts. By reducing potential development in close proximity to the marsh, this alternative would have fewer such impacts than either the proposed project or the existing General Plan. These impacts would occur both during construction and in the long-term, as described in Section II.B. Implementation of the mitigation measures identified in Section III, B. would reduce potentially significant impacts to a less than significant level.

### ***Geology, Soils, and Seismicity***

Under all of the alternatives, new development in the *Alviso Master Plan* area would be subject to geologic and soils conditions which can pose a hazard to structures. These conditions include Bay Mud, expansive soils, landfills and undocumented fill, and alluvial deposits including loose to medium dense sands.

Under the Reduced Scale Alternative, light industrial uses could be developed in areas that were formerly used as disposal sites or contain undocumented fill. The total area underlain by these materials that could be developed is similar to that under the existing General Plan. Therefore, potential geologic impacts (from development on former landfill and undocumented fill sites) would be less under the Reduced Scale Alternative than under the proposed *Master Plan*.

### ***Vegetation and Wildlife***

The potential impacts to biological resources under the Reduced Scale Alternative would be less than under the proposed *Master Plan*. Fewer potential wetlands would be likely to be impacted in the area south of the Guadalupe River and the incursion by the light industrial area adjacent to New Chicago Marsh (north of State Street) would be reduced in size. The decreased intrusion into the marsh would reduce potential biological impacts to less than



those of either the proposed project or the existing General Plan. Potential impacts to Burrowing Owl habitat would be similar to the proposed project

### ***Public Health and Safety***

The potential impacts from hazardous materials on the George Mayne School under the Reduced Scale Alternative would be similar to those anticipated from the proposed *Master Plan*. Other potential hazardous materials and other health and safety impacts from this alternative would also be similar to those from the proposed *Master Plan* except that by reducing the encroachment into New Chicago Marsh by planned *Light Industrial* land uses, the possibility of hazardous materials impacts from planned industrial development on the nearby Refuge and sensitive marsh habitats is significantly reduced. Also, the designation of the Cargill landfill site for less intensive land uses than proposed by the *Master Plan* (*Private Recreation* instead of *Industrial Park*) reduces the potential for persons and property being adversely effected by landfill gases and other possible hazardous materials impacts which could result from developing on a closed landfill.

### ***Visual Resources***

This alternative proposes that the USA limit be pulled back to eliminate planned development on wetlands that have come into existence on the old wastewater treatment property north of Grand Avenue, and to avoid the proposed extension of planned urban development farther into New Chicago Marsh. The visual impact of such development would therefore be avoided.

This alternative also designates the Cargill landfill property, which occupies much of the vacant land north of SR 237 and west of Gold Street, for *Private Recreation*, instead of *Industrial Park*. This should reduce the likelihood that intensive urban development on the landfill will obscure views of the wetlands beyond from SR 237, and would create a more significant visual change in the area than would be anticipated under the existing General Plan, as well as a significant change in the existing conditions in the area.

### ***Air Quality and Odor***

As shown in Table 19, this alternative would also have significant air quality impacts, but would generate between 9% and 11% fewer pollutants than the proposed *Master Plan*.

### ***Other Areas of Impact***

Impacts associated with noise, energy, cultural resources, public utilities and public services would be similar to those from the proposed *Master Plan*. Like the proposed *Master Plan*, this alternative would result in less than significant traffic impacts.

**Conclusion:** This alternative would result in significantly reduced land use, vegetation and wildlife, visual, and hazardous materials impacts. It would also reduce the air quality and potential geologic/soils impacts which might be anticipated from the *Master Plan*. This alternative would be environmentally superior to the proposed project, the Increased Residential Alternative, and the No Project (i.e., existing General Plan) Alternative.

## **V. CUMULATIVE IMPACTS**

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[To be prepared at a later time]

## **VI. SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS**

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Implementation of the *Alviso Master Plan* would result in the following significant, unavoidable impacts:

- Significant land use compatibility impacts between future industrial development and existing residential, educational, and recreational uses;
- Significant land use compatibility impacts between the Baylands and future development within the proposed USA expansion;
- Significant loss of agricultural lands;
- Significant stormwater drainage impacts related to generation of stormwater flows in excess of existing stormwater collection and disposal system capacity;
- Significant geology, soils and seismicity impacts related to construction in the area of the proposed USA expansion.
- Significant loss of salt marsh harvest mouse and/or Burrowing Owl habitat;
- Significant public health and safety impacts related to the possible location of industrial uses that use hazardous materials in close proximity to George Mayne Elementary School;
- Significant visual impacts related to development allowed under the proposed *Master Plan*;
- Significant lighting and glare impacts to habitat areas in and adjacent to New Chicago Marsh;
- Significant short-term noise impacts from pile driving near sensitive land uses;
- Significant regional air quality impacts from traffic generated by development allowed under the proposed *Master Plan*;
- Significant increases in stormwater runoff and sanitary sewage added to aging and undersized utility lines;
- Significant potential for growth inducement.

All other significant impacts of the *Alviso Master Plan* could be mitigated to a nonsignificant level with the implementation of mitigation identified in this EIR.

## **VII. GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT**

Development allowed under the proposed *Master Plan* and General Plan land use designations would generally fill in pockets of undeveloped land within the City of San Jose's existing Urban Service Area. An exception to this is the 14-acre expansion of the Urban Service Area north of State Street. This USA expansion would require the extension of utilities into part of the existing baylands which are considered a part of the Greenline identified in San Jose's adopted General Plan.

The proposed USA expansion primarily includes land that was filled without permits. The expansion of the USA and the subsequent development entitlements such an expansion would allow, would create a built-up peninsula of development intruding into New Chicago Marsh. To the extent that approval of this USA expansion creates a precedent or example that may be followed by others, it could encourage other property owners to fill marsh or other wetlands, and may serve as a basis for justifying other expansions of the USA boundary. Other than the existing, undocumented and unpermitted fill on these properties, there is no physical condition that would justify their inclusion in the Urban Service Area that would preclude other properties in New Chicago Marsh also being considered for inclusion.

***Conclusion:*** The proposed expansion of the USA into New Chicago Marsh would have potentially significant growth inducing impacts. **(Significant Unavoidable Impact)**

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